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Given to the
Boston Athenæum
BY
Dr. Milbrey Green
Received June 18, 1884

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Yours resp'ly
A. J. Howe.

Nat

PROC

CAT.

VIRES VITALES SUSTINETE.

TRANSACTIONS

OF THE

National Eclectic Medical Association,

FOR THE YEARS 1883–84.

INCLUDING THE

PROCEEDINGS OF THE THIRTEENTH ANNUAL MEETING, HELD AT THE CITY OF TOPEKA, KANSAS, JUNE, 1883.

EDITED BY ALEXANDER WILDER, SECRETARY.

VOL. XI.

PUBLISHED IN BEHALF OF THE ASSOCIATION.

"Literature is the Immortality of Speech."

ORANGE, N. J.:
CHRONICLE BOOK AND JOB PRINTING OFFICE,
1884.

OFFICERS FOR 1883.

777

FOURTEENTH YEAR.

PRESIDENT:

EDWIN YOUNKIN, M. D., ... St. Louis, Mo.

VICE-PRESIDENTS:

J. MILTON WELCH, M. D., ... Topeka, Kansas
GEORGE COVERT, M. D., ... Clinton, Wisconsin
LEMON T. BEAM, M. D., ... Johnstown, Penn.

SECRETARY:

ALEXANDER WILDER, M. D., ... Newark, N. J.

TREASURER:

JAMES ANTON, M. D., ... Lebanon, Ohio.

THE ANNUAL MEETING WILL BE HELD AT CINCINNATI, OHIO, BEGINNING WEDNESDAY, JUNE 18, 1884, AND CONTINUING THREE DAYS.

SEE PAGE 406 FOR PARTICULARS.

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VIRES VITALES SUSTINETE.

National Eclectic Medical Association.

CONSTITUTION,

BY-LAWS AND STANDING RESOLUTIONS.

PREAMBLE.

WHEREAS, The right of doing good transcends all statutory and other enactments, and the profession of healing is therefore radically a sacred one, to be exercised by any and every person duly qualified by natural endowments and acquired skill and knowledge; and

Whereas, The practice of medicine has become conformed to the genius of the nineteenth century, and is no more the secret art of a sacerdotal caste or privileged order, to be hedged in by penal laws, ethical codes, or other instruments of barbarism and oppression, but has become the lawful vocation of citizens, like other callings; and

Whereas, The Constitution of the United States of America, the Constitutions of the several States, and the laws enacted in conformity with them, assure and protect this right of medical practice, and all legislation, political favor, or other discrimination tending to restrict or contravene the right, especially for the purpose of fostering any school of practice under the pretext of regularity or superior scientific knowledge, is a violation of the spirit if not of the express provisions of those instruments, and ought to be discountenanced, disregarded, opposed and resisted as a departure from the principles of republican government, as well as of natural right; and

Whereas, The Reformed practitioners of medicine have the same and every right to the encouragement and protection of government as physicians of other schools, and all good citizens; and

Whereas, The Legislature of the State of New York did, for the promotion of science and the establishment of an improved practice of medicine, enact the following Act of Incorporation:

AN ACT to incorporate the NATIONAL ECLECTIC MEDICAL ASSOCIATION—Passed March 27, 1871.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. John Wesley Johnson, Stephen H. Potter, J. S. Cowdrey, William Molesworth, R. A. Gunn, J. C. Hulbert, James M. Comins, Benjamin J. Stow, Robert S. Newton, William Jones, Herod D. Garrison, J. M. Harding, S. B. Munn, Dennis E. Smith, Horatio E. Firth, and those associated with them, are hereby constituted a corporation, under the name of "THE NATIONAL ECLECTIC MEDICAL ASSOCIATION," with the full rights and powers for the purposes of this act of natural persons.

SEC. 2. The object of this corporation shall be to maintain organised co-operation between physicians, for the purpose of promoting the art and science of medicine and surgery, and the dissemination of beneficial knowledge and an improved practice of medicine.

SEC. 3. The business of said corporation shall be managed by its Executive Committee, consisting of its President, Secretary, Treasurer, and such other officers as the Association shall designate; and elections shall be held annually, as provided by the Constitution. All persons so elected shall hold office for the term of one year, and until their successors are chosen. The persons elected in September last, as officers of said corporation, shall hold office till such election of successors. At all meetings of said Association fifteen members shall constitute a quorum for the transaction of business.

SEC. 4. The said corporation shall be subject to the provisions of title third, chapter eighteen, of the first part of the Revised Statutes, and to the general laws for the government of scientific and benevolent associations, so far as the same shall be applicable and not inconsistent with the provisions of this Act. And

Whereas, This Association has been duly organised in accordance with the provisions and purposes of the aforesaid statute;

We, the members of the Eclectic School of Medicine, subscribing in good faith to the doctrines and principles of Reformed Medicine, as formulated and announced from time to time, and duly proclaimed, do now adopt the following

CONSTITUTION.

Article I.

This Society shall be known by the name of the National Eclectic Medical Association.

Article II.—Objects.

The object of this Association shall be to maintain organised co-operation between physicians, for the purpose of promoting the art and science of Medicine and Surgery, and the dissemination of beneficial knowledge and an improved practice of medicine.

Article III.—Membership.

This Association shall consist of such Permanent Members as duly become such and conform to the requirements and regulations; also of delegates appointed by Local and State Associations in sympathy with this Association and its objects. The Permanent Members shall have full power and acknowledgement as such while acting in co-operation with this Association; and delegates shall have and exercise the powers and privileges of members, subject to the by-laws and other regulations, for the period of one year.

Article IV.—Officers and Executive Committee.

The officers of this Association shall consist of a President, three Vice-Presidents, a Secretary and Treasurer, who shall severally exercise the powers and duties assigned to such officers by the usage of parliamentary and other public bodies. The President, Secretary and Treasurer shall constitute the Executive Committee of the Association for the transaction of all business, when the Association is not in session, which has not been delegated to standing or other committees. The seal of the Association, whenever practicable, shall be placed upon all official papers.

Article V.—Committees on Status.

It shall be the duty of the President to appoint committees of persons in every State, having in it a State Eclectic Medical Society, to attend the meetings of the Eclectic Medical Societies of the States in

which they respectively reside, and to report in writing, at the annual meetings of this Association, the prosperity, membership and condition of such Societies, and such facts in regard to the welfare and prospects of Reformed Medicine in the States as shall appear to them of importance. These reports, or a proper abstract of them, shall be included in the published *Transactions* of this Association.

Article VI.—Reports and Essays.

The President, within three months from the holding of the annual meeting, shall designate members to prepare papers or reports to be submitted at the annual meeting next ensuing. Every member of this Association shall, at his earliest convenience, communicate to the Association or its Secretary all interesting cases, improvements, discoveries and suggestions as he shall consider useful, and prepare papers and essays on topics connected with medical science or practice; which may, whenever judged of sufficient importance, be published with the *Transactions*.

Article VII.—Meetings.

The annual meeting of this Association shall be held, when not otherwise ordered, at such place as the Executive Committee shall designate, on the third Wednesday of June; but the Association shall, at any meeting, in such manner as it may provide, have full authority to fix the time and place of such meeting; and the hour of assemblage, when not otherwise directed, shall be ten o'clock in the morning. The period of holding the annual meetings shall be three days.

Article VIII.—Amendments.

Amendments may be made to the Preamble, Constitution or By-Laws at any regular meeting, notice having been given at a previous meeting, by the concurring vote of two-thirds of the members present, provided that twenty votes shall be duly recorded in favor of the same; but by unanimous consent amendments or alterations may be made at the same meeting at which they are offered.

BY-LAWS.

ARTICLE I.—MEMBERSHIP.

SEC. 1. This Association may receive as Permanent Members such persons, graduates of regularly-organised medical colleges, holding legitimate diplomas, and physicians who have been engaged in reputable practice for fifteen years, as are duly recommended by the local or State Eclectic Medical Society to which they belong, provided that they are or have served as delegates to this Association. Persons of high medical and scientific attainments from other countries may, upon the nomination of a member, and the recommendation of the Executive Committee, be elected Honorary Members at the Annual Meeting next after such nomination.

SEC. 2. Every State Medical Society in sympathy with this Association and its purposes is authorised to appoint fifteen delegates annually, and every local or district society two delegates, and every medical college likewise two delegates.

ARTICLE II.—FEES AND DUES.

SEC. 1. Every person duly elected as a permanent member of this Association shall complete such membership by paying an initiation fee of seven dollars. He shall also report his name and residence annually, to the Secretary, within one month from the time of the annual meeting, and shall likewise, after the first year, pay an annual due of three dollars. It shall be the duty of the Treasurer, on the second day of the annual meeting, and also on the day ensuing, to report the name of every member in arrears for dues, in open session, for action of this Association.

SEC. 2. Delegates not members, upon their reception by the Association, shall pay into the treasury the sum of five dollars, which shall be credited on their initiation fee in case that they shall also become Permanent Members at the same session of this Association; and they shall be entitled to receive a printed volume of the publications of the Association.

SEC. 3. Each Permanent Member, upon signing the roll, shall be entitled to receive a certificate of membership, duly authenticated by the seal of the Association and the signatures of the President and

Secretary. He shall also, upon payment of the annual due, be entitled to a volume of the printed *Transactions. No member in arrears shall be entitled to the printed publications, or to exercise any right of membership.*

ARTICLE III.—ETHICS.

SEC. 1. The members of this Association shall exercise toward each other, toward all physicians, Eclectics especially, and toward all mankind, that courtesy and just dealing to which every one in his legitimate sphere is entitled, and any departure therefrom shall be deemed unprofessional, undignified and unworthy the honorable practitioner of an honorable profession. It shall also be regarded as unbecoming to engage in any form of practice, or of advertising, which shall tend to lower the physician in the esteem of the community, or to reflect discredit upon his professional associates.

SEC. 2. While it is the undoubted right of every physician to present himself before the public in an honorable manner, and to state that he makes a specialty of any particular disease, no member of this Association shall advertise himself by handbills, circulars, publication of certificates of cures, or any such means; nor associate himself in business professionally with any one so doing; nor advertise himself as belonging to this Association, or any auxiliary medical society, or any medical college. Any member knowing of any violation of this provision by members of this Association, or of any person not a member of this Association or any auxiliary medical society, advertising himself as such, shall inform the Executive Committee of the matter, with all the facts in his possession; and it shall be the duty of the Executive Committee thereupon to publish the facts in some public journal circulating in the region where such offense has been committed.

ARTICLE IV.—DISCIPLINE OF MEMBERS.

SEC. 1. Any member may be officially censured, invited to withdraw, or expelled from membership, for improper conduct, or a violation of professional comity. But it shall be necessary for a specific charge to be made in writing, and a copy to be presented to the person accused or some person acting in his behalf, and another placed in the hands of the President or Secretary one month before the time of holding a regular meeting.

SEC. 2. All professors or officers of colleges voting and otherwise co-operating in the conferring of the degree of Doctor of Medicine on

any person not duly entitled to the same by the necessary attendance on medical lectures and thorough examinations, shall be considered as liable to the penalties enumerated in this article.

Article V.—Qualifications Necessary for the Degree of Doctor of Medicine.

Medical colleges in good standing with this Association shall require that each and every candidate for graduation shall be twenty-one years of age, and have pursued the study of medicine for three years under the surpervision of a reputable physician or in a reputable medical college, and have attended at least two full terms of instruction of at least five months' duration, with an interval of five months, the last of which shall have been in the college conferring the degree.

Article VI.—Election of Officers.

Sec. 1. At every annual meeting of this Association, upon the third day of the session, there shall be an Electoral Committee chosen by the members and delegates, as follows: Every State represented in the Association by members belonging to a State Society shall be entitled to two votes, and every medical college recognised by this Association to one vote in the said committee; and a majority of the Electoral Committee having convened and duly organised shall elect the officers of the Association.

Sec. 2. This committee may also propose the next place of meeting, but the naming of the same shall be subject to the approval of the Association.

Article VII.—Quorum.

Sec. 1. Fifteen members at any regular meeting shall constitute a lawful number to transact business, but a smaller number may receive reports.

Sec. 2. It shall be the duty of members desiring to leave before final adjournment, to communicate the fact to the President.

Article VIII.—Surrender of Membership.

Omission to give notice of residence to the Secretary, or to pay annual dues for two years, shall be equivalent to a surrender of membership; but such persons may be restored to full rights on payment of all arrearages.

ARTICLE IX.—ORDER OF BUSINESS.

1. Ascertaining the presence of a quorum.
2. Calling the roll of Officers.
3. Receiving the names of delegates and propositions for membership, and referring them, and credentials, to the Committee on Credentials.
4. Reports of Officers.
5. Reports of Committees, which shall always be in order when no other business is in progress.
6. Reception of papers by title. It shall, however, be in order, when no other business is before the Association, to read any such paper and discuss the subject of which it treats.
7. Miscellaneous business.

ARTICLE X.—PUBLICATION OF TRANSACTIONS.

No report or paper presented to this Association, as herein provided, shall be excluded from the printed volume of *Transactions* except for the following reasons:

1. Imperfect preparation.
2. Indecorum of language.
3. Unfriendly expression toward the Association.
4. Want of importance, or of pertinency to the subjects within the province of the Association.
5. Insufficient means in the possession of the Treasurer to liquidate expense of publication.

All papers read or submitted to the Association are its property, and shall be deposited with the Secretary within thirty days; or else they shall not be acknowledged, except by express vote or authorisation, in any journal or proceedings. But this Association is not to be regarded as approving unqualifiedly, or sanctioning to their full extent, the several doctrines and sentiments set forth in the papers thus presented and published by its direction.

The Secretary of this Association shall be editor of its publications, *ex-officio*, subject to the supervision of the President and Treasurer, and shall be entitled to repayment of all necessary expenses actually incurred, travelling expenses to and from meetings, and such additional amount as the Association shall consider his due.

STANDING RESOLUTIONS.

[The Secretary has generally omitted from this category all resolutions which have, subsequent to their adoption, been incorporated into the Constitution and By-Laws of the Association, or virtually suspended by others of a similar tenor which have been rescinded and directed to be omitted by a resolution of the Association.]

ANNUAL MEETINGS AND ELECTIONS.

Resolved, That in future the annual meetings of this Association be held for three days, that the election of officers shall take place on the third day, and that the By-Laws of this Association be and the same are hereby amended to that effect.—*Adopted June* 19, 1879.

AMENDMENTS TO THE CONSTITUTION.

Resolved, That in future, due notice be given in the Announcement to the members of this Association of any proposed amendment to the Constitution or By-Laws to be acted upon at the meeting.—*Adopted June* 22, 1882.

SECTIONS.

Resolved, That Sections be constituted for the various departments of Medical Science, with Chairman and Secretary, to be appointed or elected at each annual meeting.—*Adopted June* 18, 1880.

Resolved, That in future sessions of this Association, all papers submitted to it shall be referred by the President to the proper Section.

Resolved, That in the absence of the Chairman of any Section another shall be appointed by the President of the Association to serve during the session.

Resolved, That its Chairman shall convene each Section at the earliest possible opportunity; and that such papers as have been submitted shall be considered, and the recommendation of the Section communicated to the Association.

Resolved, That the Secretary of each Section shall submit to the Secretary of the Association a list of all papers in the possession of each Section, with the recommendation of the Section thereon, and shall deliver to him all such manuscripts at the close of the Session.—*Adopted June* 17, 1881.

LENGTH OF SPEECH IN DEBATE.

Resolved, That no member be allowed more than five minutes to discuss any subject presented, and that no one be allowed to speak the second time on the same subject except by a vote of this Association. —*Adopted June* 25, 1873.

EXHIBITION OF WARES, ETC., FORBIDDEN AT MEETINGS.

Resolved, That in the future sessions of this Association no exhibition of Pharmaceutical Preparations, tables of Electrical and Surgical instruments, signs, show-cards and circulars of remedies, the names of which are secured by trade-mark, shall be allowed in the hall used for the deliberations of this Association.—*Adopted June* 22, 1882.

LOST CERTIFICATES OF MEMBERSHIP.

Resolved, That the President and Secretary be hereby authorised to duplicate lost certificates on the payment of expenses for the same.—*Adopted June* 19, 1878.

STANDING COMMITTEES, ETC., ORDERED.

Resolved, That a Bureau of Electricity be established, and constitute henceforth a Standing Committee of this Association.—*Adopted June* 17, 1879.

Resolved, That a Committee be appointed, consisting of five members of this Association, on the Nomenclature of Diseases, whose duty it shall be to make a report annually to this Association.—*Adopted June* 17, 1880.

Resolved, That a Committee on Location be appointed by the Chair to obtain information in regard to desirable locations for physicians, and to correspond with any who may desire to change their location.—*Adopted October* 5, 1871.

Resolved, That a Committee of five physicians, not pecuniarily interested in any manufactory of medicinal preparations, and to be known as the "Committee on Pharmacopœia," be appointed annually by this body, *etc.*—*Adopted June* 17, 1879.

Resolved, That this Association authorises the Secretary to copyright the following title page of the *National Eclectic Pharmacopœia*, in order that it may own and have this as a trade-mark: "*The American Eclectic Pharmacopœia; authorised by the National Eclectic Medical Association, Chicago, Illinois*, 1870."—*Adopted September* 28, 1870.

Resolved, That this Association adopt the plan of a Pharmacopœia, as recommended by the report of the Committee.—*Adopted June* 16, 1880.

Resolved, That upon the preparation of the *Pharmacopœia*, for publication, the President and Secretary are hereby empowered and directed to transfer the copyright in the name of the Association, to Dr. Albert Merrell, on condition that he shall publish the same in approved and creditable form, at his own expense and without unreasonable delay.—*Adopted June* 16, 1881.

AMERICAN DISPENSATORY.

Resolved, That this Association adopt the *American Dispensatory* as its standard authority.—*Adopted June* 18, 1879.

COLLEGES AND COURSES OF STUDY.

Resolved, That this Association recognises the following Eclectic colleges as being in good standing, and recommend that they receive the support of our profession:*

The Eclectic Medical Institute of Cincinnati,
The American Medical College of St. Louis,
The Eclectic Medical College of New York,
The Bennett Medical College of Chicago,
The United States Medical College of New York.

Resolved, That we approve the courses of instruction adopted, and especially recommend to students a graded course of three years, or attendance upon three or more courses of lectures of not less than twenty weeks each.—*Adopted June* 19, 1879.

Resolved, That this Association recognises the California Medical College (Eclectic) at Oakland, California, as an accession to our medical institutions.—*Adopted June* 18, 1880.

Resolved, That the Georgia Eclectic Medical College, at Atlanta, is hereby recognised as an institution in good standing and entitled to favor from the members of this Association.—*Adopted June* 21, 1882.

Resolved, That the Indiana Eclectic Medical College is hereby recognised as an institution in good standing and entitled to similar rights and privileges with other medical colleges heretofore approved by this Association.—*Adopted June* 22, 1882.

* These colleges are recognised as regular by the National Bureau of Education.

AFFAIRS OF MEDICAL COLLEGES.

Resolved, That a Committee of five be appointed by the Chair to consider such contingent matters as may arise concerning the *status* of Medical Institutions and report upon the same; and that the Committee be continued from year to year till their vacancies through absence shall require filling on the part of the Association.—*Adopted June* 20, 1883.

STANDARD OF MEDICAL EDUCATION.

Resolved, That this Association pledges its influence for the maintenance of the highest standard of Medical Education consistent with law and the custom of the times.—*Adopted October* 5, 1871.

Resolved, That the instructors and censors of the several medical colleges professing the Eclectic faith are hereby requested to adopt, as nearly as may be, a uniform standard of qualifications for candidates for the degree of Doctor of Medicine, as well as in relation to the term of study, maintaining a proper comity toward each other; and further, that like proficiency be required in Medical Botany and the principles of Chemistry, as in the science of *Materia Medica* and the Principles and Practice of Medicine.—*Adopted June* 18, 1874.

EQUAL RIGHTS FOR ECLECTICS.

Resolved, That Congress be memoralised to enact "that the Graduates of any Medical School that requires of its candidates for the degree of Doctor of Medicine, attendance upon two full courses of lectures, of not less than five months each, upon the subjects of Anatomy, Physiology, Principles and Practice of Medicine, Surgery, Obstetrics, Materia Medica, and Chemistry—such courses to have an interval of at least five months between them—and shall also require three full years of study of subjects pertaining to the Science of Medicine, shall be eligible to the medical and surgical offices of the United States Army and Navy through the medium of the examinations as now required by law."—*Adopted June* 21, 1878.

THE TRANSACTIONS.

Resolved, That the papers and articles included in the published *Transactions* shall be restricted, except in extraordinary cases, to twenty printed octavo pages.—*Adopted June* 17, 1881.

Resolved, That members presenting papers to the Association have the right to copyright them if they wish, the fact to be so stated in the published reports of the Association.—*Adopted June* 25, 1873.

Resolved, That the present and future editions of the published *Transactions* of this Association be bound in cloth.—*Adopted June* 20, 1879.

Resolved, That this Association is not to be regarded as approving and sanctioning to their full extent the several doctrines and sentiments advanced in the papers presented and published by its direction.

Resolved, That a copy of this resolution be published in some proper place in future volumes of *Transactions*.—*Adopted June* 15, 1875.

RESPECTING LAWS TO REGULATE MEDICAL PRACTICE.

Whereas, The correct treatment of the human body, when suffering from disease or accident, requires the highest degree of skill attainable by man; and

Whereas, The people are almost wholly incapable of estimating the scientific attainments of medical practitioners; and

Whereas, Diplomas have been freely granted by Medical Colleges of all branches of the medical profession to men grossly incompetent, and have thus ceased to be sufficient evidence of the scientific attainments of their possessors; therefore,

Resolved, That we favor the passage of laws by the various Legislatures of this Union making it necessary for every person desiring to engage in the practice of Medicine, Surgery, or Obstetrics, to pass a fair examination in the fundamental sciences comprehending a course of study necessary for the requirement of a full knowledge of the Science of Medicine in all its branches.—*Adopted June* 27, 1873.

STATE MEDICAL BOARDS.

Resolved, That the members of the National Eclectic Medical Association hereby declare, that they are in favor of the legal organisation of State Boards, whose chief object is to suppress traffic in medical diplomas, and to expel from medical practice all such individuals as dispense medicines without a legitimate right to thus pursue his avocation; *provided*, That the said Boards be so organised as not to be under the majority-rule of any one School of Medicine.—*Adopted June* 17, 1880.

ABORTION.

Resolved, That the growing evil of the practice of Abortion, perpetrated, as we believe, by individuals from every branch of the profession, is an abuse justly alarming to society; and that we hereby record

our unqualified condemnation of this wicked and cruel practice, and also of all physicians, of whatever school, who engage in it.—*Adopted October* 5, 1871.

PROPRIETARY MEDICINES AND UNPROFESSIONAL ADVERTISING.

Resolved, That while this Association is in favor of the largest liberty in respect to the business of members of the medical profession, we nevertheless *declare our disapproval of the vending by physicians of patent or proprietary remedies*, and of *boastful advertisements*, whether in the secular press or in medical journals.—*Adopted October* 5, 1871.

PRESCRIBING BY DRUGGISTS.

Whereas, It has become a prevailing custom for druggists to prescribe medicines over their counters to those who apply to them for relief, in order to save the fee that would properly belong to the physician, therefore,

Resolved, That this practice is an outrage committed against medical practitioners, and detrimental to the welfare of the community; and that all physicians should kindly present this matter to their respective druggists, and request its discontinuance; and if they do not listen to this appeal, it becomes the duty of the practitioner to withdraw his patronage.—*Adopted September* 29, 1870.

PUBLICATIONS.

Resolved, That the members of this Association express their appreciation of the meritorious labors of the authors of our Eclectic medical books already published, as also the self-sacrificing and laudable exertions of the editors and publishers of our medical periodicals, and express also our gratitude to both classes of these pioneers in medical reform.

Resolved, That while we return them our grateful acknowledgements, we most respectfully request and earnestly insist that greater care be exercised in compiling works in future, and a more careful discrimination made in the original and selected matter of our periodical literature.—*Adopted September* 29, 1870.

National Eclectic Medical Association.

ANNUAL MEETING—1883.

THE Thirteenth Annual Meeting of the National Eclectic Medical Association of the United States of America was held in the Senate Chamber, in the city of Topeka, Kansas, beginning on Wednesday, June 20th, 1883.

FIRST DAY.—MORNING SESSION.

The Association was called to order at ten o'clock by the President, Doctor Andrew Jackson Howe, of Cincinnati, Ohio.

The Right Rev. Thomas Vail, D. D., Protestant Episcopal Bishop of the Diocese of Kansas, was introduced, and offered the invocation, to the Great Healer of men, invoking the Divine blessing on those now assembled to consult as to the best and most proper means of following his example in healing the sick and comforting the afflicted, and asked that they may be animated by the Divine Spirit. He closed by repeating the Lord's Prayer.

GOVERNOR GLICK'S ADDRESS OF WELCOME.

President Howe announced his Excellency, George W. Glick, Governor of the State of Kansas.

The Governor proceeded to address the Association:

"*Gentlemen and Fellows of the National Eclectic Medical Association of the United States*:—In behalf of the State of Kansas and of the worthy members of your Association of the capital city of the State, I welcome you to this place of meeting.

"It is a source of great pleasure to me, as well as the members of your society who are citizens, to be honored by your presence. It is a compliment to the State, and a greater compliment to her members of the medical profession, to feel and know that the grand young State of Kansas is able to offer sufficient attractions to you to

visit her territory, and enjoy for a brief period its salubrious climate and note its wonderful progress in material development, its grand strides of progress and its great possibilities for the future. Men of education and of scientific skill, as you are, you will observe these things and comprehend their value by a simple view of the beautiful surroundings.

"One reason why I think Kansas was selected as the place of your meeting was that your associates who reside within our State had assured you that you would enjoy perfect health while here, and you will find that assurance true; the immunity from disease I can assure will add largely to your enjoyment while you remain with us.

"That your coming, gentlemen, will be a source of pleasure as well as profit to each of you, I have no doubt. Men who leave their homes and business to attend such meetings show to the world that they have an interest in science and are devoted to the cause of humanity that their profession represents; that their aim is not controlled alone by the mere routine of their vocation, but by the higher and nobler aim to alleviate the sufferings and ills that mankind are subject to, and by investigation and consultation to surround us by a wall of protection against the wasting diseases that invade the households of the highest as well as the humblest of mankind.

"If I understand aright the principle upon which the Eclectic School of Medical Practice is founded, you are not exclusive or confined to any pet theory or practice, or any special class of remedies, but that you call out and appropriate to your use the choicest and most valuable parts of nature's *Materia Medica* and use them in your practice without reference to the sources from which they were obtained. You select the remedy that will subdue the disease in the most effective manner and in the shortest time. You make no war on the Allopathic, Homœopathic or Hydropathic theories or practices, but make the good and the useful remedies of either medical profession subservient to your will, and subordinate theory to your requirements in subduing diseases. While I am not one to judge between the different theories of the different medical schools of practice, there is certainly one thing about yours that will commend it to the thinking and the fair-minded, namely: that it is free from prejudice for or against remedies, simply because other physicians use or adopt them. You do not object to the use of a remedy simply because the learned or skillful man who belongs to another medical organisation than yours uses it in his treatment of diseases. A grand and noble principle on which to found and perpetuate your medical practice, grand in its inception, honorable in its aims and charitable in its treatment of others who believe in different theories of the practice of medicine and the treatment of diseases!

"That you are honest and sincere in your endeavors is proved by your honest and laborious efforts to elevate the moral tone and standing of your profession, and to add to the store of your yearly-accumulating scientific information. By your efforts to mitigate and alleviate the sufferings of mankind from the pains and aches that invade the human form, and travelling hundreds of miles to seek for more knowledge and learn from your associates what they have accomplished for suffering humanity in the past year, you demonstrate your desire to place your profession on a higher plane of scientific learning. Thus the elements are made to do your bidding in your intelligent and successful warfare for the protection of the lives and the happiness of your fellow man.

"This is a laudable ambition. I trust that your most sanguine anticipation will be gratified by the result of this meeting; and that year by year you will add to your store of knowledge and secure new and more salutary remedies in the healing art, which you will be able to apply with an intelligent skill and successful results that redound to your credit.

"Again, gentlemen, I welcome you to our young State, and hope your stay may be pleasant, and that your convocation will result in great benefit, profit and happiness to yourselves."

PRESIDENT HOWE'S REPLY.

When the applause which followed as the Governor concluded had subsided, Dr. Howe replied:

"*Governor Glick:*— When the National Eclectic Medical Association voted a year ago to hold their next annual convention in Kansas, at the capital of the State, there were those who thought us rash for going so far westward. But the cordial reception tendered us has convinced all present that in coming here a step was taken in the right direction. The welcome words of your Excellency have already put us on good terms with ourselves and our surroundings. In return for the official compliment on your part please accept our hearty thanks. May you long enjoy the distinguished honor the suffrages of an intelligent and discriminative people have conferred on you.

"Some of us can remember when Kansas was a dark and bloody ground; when this vast territory was grazed by untamed herds, and roamed over by hordes of savage men. Now the evidence of culture and proofs of prosperity everywhere abound. To be the chosen ruler of this promising commonwealth is a distinction that ought to satisfy the ambition of the most aspiring. You have occasion to be proud of your civil position.

"Right Reverend Sir, we appreciate the earnest appeal made at the throne of Grace in our behalf. Sickness is an evil, a misfortune, a calamity, and physicians have a pecuniary interest in its existence; therefore it is questionable whether we can legitimately pray for our daily bread. To escape the dilemma we endeavor to be so agreeable and to give such pleasant medicines that our patients do not regard it a grievance, but a luxury, to be sick. We really make some people *enjoy* poor health. By this means we endeavor to avoid the imputation of invoking an epidemic of some kind when it is distressingly healthy.

"Revered Governor, we all wish you well. May your lines ever fall in pleasant places."

The Committee on Credentials was appointed by the President, as follows: George C. Pitzer, M. D., of Missouri; T. Arthur Wright, M. D., of Kansas; Henry Wolhgemuth, M. D., of Illinois; William T. Gemmill, M. D., of Ohio; Vincent A. Baker, M. D., of Michigan.

The following communication was received from officers of the Kansas Eclectic Medical Association:

"*Resolved*, That it is the sense of the Kansas Eclectic Medical Association that the By-Laws of the National Association prohibiting more than fifteen delegates from Kansas should be unanimously suspended, and that all qualified physicians, members of the State Society, who can duly pass the Committee on Credentials, shall be admitted the present year."

On motion of Dr. S. W. Ingraham, of Illinois, it was unanimously

Resolved, That the names of other persons, members of medical societies in affiliation with this Association, or who live in States having no such societies, if duly recommended by the officers of such societies or of this Association, shall be duly referred to the Committee on Credentials as candidates for permanent membership, on the same footing with delegates duly appointed as prescribed by Article I. of the By-Laws.

The roll of officers was then called by the Secretary. Present: Andrew J. Howe, M. D., President; Henry K. Stratford, M. D., Vice-President; Alexander Wilder, M. D., Secretary; James Anton, M. D., Treasurer.

The roll of States was also called, and credentials were received from auxiliary societies as follows, namely: the Eclectic Medical Society of Connecticut, the Eclectic Medical Society of Georgia, the Illinois State Eclectic Medical Society, the Indiana Eclectic Medical Association, the Iowa Electic Medical Society, the Kansas Eclectic Medical Association, the Kentucky State Eclectic Medical Association, the State Eclectic Medical and Surgical Society of Michigan, the Minnesota Eclectic Medical Society, the Eclectic Medical Society of Nebraska, the Eclectic Medical Society of the State of New Jersey, the Eclectic Medical Society of the State of New York, the Eclectic Medical Society of Central New York, the West-Side Medical Society of the city and county of New York, the Ohio State Medical Association, the Mahoning Valley Eclectic Medical Association of Ohio, the Eclectic Medical Association of Pennsylvania, the Vermont State Eclectic Medical Society, the Eclectic Medical Society of Wisconsin; also the American, Bennett, Georgia, Indiana, Iowa and United States Medical Colleges.

TREASURER'S REPORT.

Dr. Anton, the Treasurer, presented his annual report, which was read, as follows:

Mr. President and Members of the National Eclectic Medical Association :

The Treasurer respectfully submits the following report of the financial condition of the Association for the year ending June 19th, 1883.

1882	COLLECTIONS.	
June 23	To Initiation Fees at New Haven, Conn.	$287.00
June 23	To Annual Dues at New Haven, Conn.	338.00
June 23	To Donation from Dr. Charles Band, of Crete, Neb.	100.00
June 23	To Dr. Charles Band's prize money, ordered by the Association turned into the Treasury subject to his order	100.00
July 16	To Cash awarded by Dr. Charles Band to Dr. G. Herman Merkel, as prize for Essay and presented by him to the Association	50.00
July 16	To Initiation Fees collected by mail	56.00
1883		
June 19	To Annual Dues by mail	388.00
	Total	$1,319.00

1882	PAYMENTS.	
June 23	By Balance due the Treasurer, as approved	$69.55
June 23	By Cash paid on Secretary's bills for sundries	89.74
June 23	By Cash paid on account for Secretary's fees	175.00
June 23	By Cash on account of Nickles Publishing Company, for Vol. IX. of *Transactions*	355.00
July 16	By Cash to Dr. G. Herman Merkel prize for Essay, as per order of Dr. Charles Band	50.00
Aug. 5	By Cash in full of Nickles Publishing Company, for Vol. IX. of *Transactions*	75.00
Aug. 15	By Cash in full of Secretary's fee as voted	25.00
Sept. 10	By Cash to Treasurer for postage and stationery up to June 20th, 1882, as approved	13.00
Sept. 20	By Cash to Dr. L. E. Russell for prize awarded him by Dr. Chas. Band, as per order of Dr. Chas. Band	50.00
Dec. 20	By Cash to Treasurer for expenses going to and from New Haven, as voted	70.00
1883		
May 12	By Cash to Secretary for stationery, postage, expressage, and Lithographer's bill for certificates	90.00
May 12	By Cash on account of F. W. Baldwin's bill for Vol. X. of *Transactions*, and printing calls, &c.	40.00
May 31	By printer's bill for Treasurer's circulars	2.00
June 9	By Cash to F. W. Baldwin, on account for Vol. X.	50.00
June 9	By Cash for Bank Drafts, since August 5	.40
	Total	$1,154,69
	Balance yet due on Vol. X. of *Transactions*	585.31
	Cash in Treasury	164.31
	Deficit to meet Printer's Bill now due	$421.00

There are fifty-three members who owe for one year's dues to date, $159; twenty-one owe for two years' dues, $126; and seventeen owe for three years' dues, $153; total, $438.

On account of so many members getting one or more years in arrears for dues, and the necessity of the Association to depend (for instance) on this year's collections to pay for last year's *Transactions* (instead of each year's income being on hand to pay its own expenses), I respectfully request members to promptly pay up arrears and one year's dues in advance, as the By-Laws require.

From the foregoing report it would seem that a renewed effort ought to be made to improve the financial condition of the Association. I respectfully offer the following as the best plan that suggests itself to me to increase the membership and revenue is to suspend the By-Laws (as may be done at once by a unanimous vote) so that as many as apply (and are properly qualified) for membership may be admitted, *provided* they are officially vouched for by their State societies or Executive Committees, as being worthy of admission; and that they be also recommended for membership by the Committee on Credentials of this Association before being voted for.

JAMES ANTON, M. D., *Treasurer.*

June 19th, 1883.

On motion of Dr. S. B. Munn, of Connecticut, the report of the Treasurer was referred to the following Committee, namely: Doctors J. M. Mulholand, J. T. McClanahan and Albert Merrell.

A beautiful bouquet, elaborately arranged, was presented to the Association by the agent of Messrs. W. S. Merrell & Co. and placed upon the desk of the President.

The Secretary proceeded to read the unapproved parts of his journal of the twelfth annual meeting, held last year in the city of New Haven. The President put the question whether the Association would accept the report, and declared it to be carried.

COLLEGE MATTERS.

On motion of Dr. Wilder the following standing resolution, adopted in 1878, was rescinded unanimously:

Resolved, That this Association recommend that any difference between or charges against any medical college or colleges, shall be submitted for the advice and action of the State Society of the State in which they exist; and that this, the National Association shall be governed by the action of said State societies.

Dr. L. E. Russell, of Ohio, submitted the following motion in writing:

"Inasmuch as questions concerning the *status* of Medical Institutions are likely to come up during the present session, or Convention of the National Eclectic Medical Association, I move: That a Committee of five members be appointed by the Chair to consider such contingent matters and report upon the same, and that the Committee be continued from year to year till their vacancies through absence shall require filling on the part of the President of the Association."

The President put the question on the resolution and declared it to be duly adopted.

PRESIDENT'S ADDRESS.

The President, pursuant to the established usage, proceeded to deliver his Annual Address. [See Schedule A at the end of Journal.] It was heard with attention and an order made to include it with the *Transactions*.

TREASURER'S REPORT APPROVED.

The Committee to which was referred the report of the Treasurer returned it to the Association with the following endorsement:

"TOPEKA, June 20, 1883.

"The above bill has been audited and found to be correct.

"J. M. MULHOLAND, M. D., *Chairman*."

The report of the Committee was accepted.

LETTERS.

The Secretary read the following letters:

"ALTOONA, PA., June 12, 1883.

"*Alexander Wilder, M. D.:*

"DEAR DOCTOR:—Owing to feeble health I expect to relinquish the Practice of Medicine as soon as I can find a purchaser. I therefore desire to resign my membership in the National Eclectic Medical Association. With best wishes for its increased and continued prosperity, and with thanks for your courtesies,

"I remain, respectfully, N. R. ADAMS."

"BROOKLYN, N. Y., June 6, 1883.

"*To the President, etc.:*

"I very much regret my inability to be with you at our National gathering at Topeka, Kansas. I had promised myself much pleasure in making one of your

number, taking old friends by the hand and receiving fraternal greetings from new ones. As circumstances have occurred to prevent this, I have done the next best thing: sending a short paper for Section D, and my check for dues for the coming year. "I remain, fraternally yours, D. E. SMITH."

"1822 MARKET ST., SAN FRANCISCO, May 26, 1883.

"*To the Officers and Members of the National Eclectic Medical Association:*

"GENTLEMEN:—You will see by my credentials enclosed that I have been elected a delegate by the State Eclectic Medical Society of California, to represent them at the meeting to be held in June. I regret exceedingly that, owing to sickness in my family, I cannot possibly be with you this year; but I hope that at your next annual meeting I may be more fortunate than at present, and meet with you in person. Wishing that every success may attend your efforts to forward the cause of Eclecticism, and that the day be not far distant when our Art and System in the Practice of Medicine and Surgery will triumph, and stand second to none in the known world, I shall be glad to be made acquainted with your doings in session, and shall watch with eager delight its final issue. We are doing well in California, with a bright future in prospect for us. I shall be pleased if I shall be elected to fellowship in the National Association. Hoping that good may result from your meeting,

"I remain, fraternally yours,

"W. R. G. SAMUELS, M. D., *Chairman.*

"EAST CALAIS, VT., June 2, 1883.

"*A. Wilder, Secretary of the National Eclectic Medical Association:*

"DEAR SIR:—Yours of the 22d ult. is received, I laid it before our State Society at Montpelier, and by unanimous vote of the Society, the following preamble and resolutions were adopted:

"WHEREAS, The Vermont State Eclectic Medical Society wishes to declare its sympathy and accord with the great National movement of Medical Reform and advancement; and believing that it may be the better accomplished by a declaration of union with the National Eclectic Medical Association, therefore,

"*Resolved*, That we, as a Medical Association, declare ourselves in union and accord with the National Eclectic Medical Association; and be it further

"*Resolved*, That this resolution be officially communicated to the Secretary of the National Eclectic Medical Association.

"W. D. WALLER,
[L. S.] "H. INGHAM,
"P. L. TEMPLETON,
"*Committee.*

"Respectfully yours,
"GEORGE H. GRAY, *Secretary Vermont Eclectic Medical Society.*"

NEWS FROM NEBRASKA.

The following letter was also received from Ex-President W. S. Latta:

"LINCOLN, NEB., June 19, 1883.

"*Prof. A. Wilder:*

"DEAR SIR:—Circumstances over which I have no control prevent me from attending the meeting of the National Association this year, and I regret it exceedingly.

"Nebraska is marching on. Our State Association meets regularly each year and

gains new accessions to its membership at each meeting. Our mode of practice is gaining in popularity. We are not only able to defeat adverse legislation, as we did last winter, but we have actually gained *three Chairs* in the Medical Department of the State University—an achievement which has never been accomplished by our School in any other State. Pardon my boasting, and let me state that during the Civil War we furnished a Surgeon for the Army from the very few Eclectics that were then in Nebraska; and, not long since, one of our men served three or four years as Superintendent of our Hospital for the Insane. Our men, so far as I know, are doing a fair business and becoming financially independent.

"In our new attribute as competitors against 'Old Physic' in the State University, if our friends can give us any assistance in the way of suggestions, advice, or otherwise, we will receive it gladly and feel ourselves to be under obligations; for we are engaging in that which is to us a new work, and we desire to be 'as wise as serpents,' if not quite 'as harmless as doves.' We hope that our cause and principle may not suffer from our deficiencies, but that we may do justice to our professions, and that our relations to this State Institution may give a new impulse to Eclecticism in Nebraska. "Fraternally, W. S. LATTA."

NEW MEMBERS.

Dr. G. C. Pitzer, from the Committee on Credentials, reported the following names of candidates, pursuant to the By-Laws and Resolutions of the Association, with the recommendation that they be admitted to Permanent Membership, as prescribed by Article II. of the By-Laws, namely:

From the Illinois State Eclectic Medical Society, Adam Simmons.

From the Iowa State Eclectic Medical Society, Hiram A. Read.

From the Kansas Eclectic Medical Association, Samuel B. Boyer, Charles A. Flippin, Seneca de F. Gurney, David W. Scott, William H. Willhoite.

From the Kentucky State Eclectic Medical Association, Martin L. Smiley.

From Nebraska, Ralph B. Crawford.

From the Pennsylvania State Eclectic Medical Association, William P. Biles, J. M. Bunn, C. M. Ewing, W. F. Harshberger, J. S. Kugler.

The report was accepted and the several candidates duly elected as specified.

A recess till two o'clock was then taken.

FIRST DAY—AFTERNOON SESSION.

The Association reassembled at the hour appointed and was called to order by the President.

The Permanent Committee on Affairs of Medical Colleges, which had been authorised in the morning session, was announced as follows: Doctors L. E. Russell, E. Younkin, J. M. Mulholand, J. T. McClanahan, S. B. Fisher.

PAPERS SUBMITTED.

The Secretary read the following papers by title:

Suspended Animation and Death, by Dr. R. A. Reid.

House-Drainage, by Dr. Milbrey Green.

A Study on the Ganglionic Nervous System, by A. Wilder.

Diabetes, by Dr. M. Robinson.

Mutual Benefit Association of Physicians, by Dr. W. Steinrauf.

Tracheotomy, by Dr. W. R. G. Samuels.

Abuse of Opiates, by Dr. H. Wohlgemuth.

Convallaria, or Lily of the Valley, by Dr. Richard E. Kunze.

Swamp Fever, by Dr. J. W. Pruitt.

Ozone, by Dr. G. H. Merkel.

Catarrh, by Dr. J. E. Briggs.

Thoughts on Surgical Practice, by Dr. Charles Band.

Scientific Basis of Eclecticism in Medicine, by Dr. C. A. F. Lindorme.

Practice of Medicine, by Dr. A. B. Woodward.

Criminal Abortion, by Dr. W. S. Latta.

Statistics of Vaccination, by Dr. J. Kaye.

Variola, by Dr. S. B. Munn.

The papers were duly referred to the several Sections.

AMENDMENTS TO THE BY-LAWS.

The President now called up the proposed amendments to the By-Laws.

The amendment proposed by Dr. Mulholand was then read: "To amend the By-Laws by adding to Article II. the following clause: 'Any member ceasing to belong to an auxiliary society shall also cease to be a member of this Association.'"

After discussion, in which the President, Dr. Munn, Dr. Anton and others participated, the President put the question, "Shall this amendment be adopted?" and declared it lost.

The amendment proposed by Dr. Gunn, proposing to exclude medical colleges from representation in the National Association, was next considered: "To amend By-Law, Article I, Section 1, by leaving out the words 'and every medical college likewise two delegates.'" The President put the question and declared it lost.

The next amendment, also proposed by Dr. Gunn, proposing to exclude representation of medical colleges on the Electoral Committee, was then read: "To amend Article VI., Section 1, by leaving out the words: 'and every medical college recognised by this Association to one vote.'" The question was taken and lost.

The amendment offered by Dr. H. G. Newton, of Massachusetts, was then read: "To amend By-Law, Article VI., Section 1, by inserting words after the words 'represented in the Association,' so that the provision in regard to the Electoral Committee shall read as follows: 'Every State represented in the Association by members belonging to a State society shall be entitled to two votes, and every medical college recognised by this Association to one vote in the said committee.'"

Dr. Munn offered the following substitute: "No person not belonging to a State Society shall be entitled to a seat in the Electoral Committee."

Dr. Wilder raised the point of order that the original proposition embraced the same features as the substitute.

The President accordingly put the question upon the amendment, and it was adopted.

The following proposed amendment, which was offered as a substitute by Dr. Milbrey Green, and laid on the table at the last annual meeting, was taken up: "To add to Article I., Section 1, of the By-Laws, the following provision for the election of Honorary Members: 'Persons of high medical and scientific attainments from other countries may, upon the nomination of a member, and the recommendation of the

Executive Committee, be elected Honorary Members at the Annual Meeting next after such nomination.'"

The President put the question: "Shall this amendment be adopted?" and declared it carried.

Ordered, That the two amendments thus adopted be duly included in future editions of the Constitution and By-Laws.

The President next called for reports and papers from the Bureau of Electricity, and individuals to whom subjects had been assigned. There were no responses.

The Committee on Pharmacopœia was constituted anew, as follows, namely: J. Milton Welch, of Kansas, S. B. Munn, of Connecticut, H. K. Stratford, of Illinois, B. L. Yeagley, of Pennsylvania, V. A. Baker, of Michigan.

NEW MEMBERS.

Dr. Pitzer, from the Committee on Credentials, reported the names of delegates with the recommendation that they be elected to Permanent Membership, as prescribed by the By-Laws, namely:

From the Connecticut Eclectic Medical Society, George Andrews, Henry Bickford, W. M. Burhans, W. S. Campbell, C. N. Gallup, J. D. Gallup, Elmer Horton, Rufus R. Mills, E. G. Smith, L. A. Smith, H. B. Steele.

From the Indiana Eclectic Medical Association, Charles P. Heil, James B. Hudson, John M. Tobias, James M. Westerfield.

From the Indiana Eclectic Medical College, J. R. Duncan.

From the Eastern Indiana Eclectic Medical Association, Isaac M. Smith.

From the Illinois Eclectic Medical Society, William J. Nicolay.

From the Kansas State Eclectic Medical Association, Morris R. Cohen, J. Harvey Jones, John A. Read, Eli Swarts, Albert H. Vail.

From the State Eclectic Medical and Surgical Society of Michigan, Levi Lewis.

From the Minnesota Eclectic Medical Society, R. Fulton Lynch.

From the Missouri State Eclectic Medical Society, Solomon S. Carr, George D. Coe.

From the Eclectic Medical Society of the State of New York D. K. Allen, J. N. Betts, M. Brockway, Jared Chase, C. Collin, L. D. Crane, Miss Catharine E. Downing, D. H. Foster, Mrs. H. T. Gunn, G. E. Hall, M. B. Ladd, A. J. N. Purdie, C. Spiegel.

From the Ohio State Eclectic Medical Association, James P. Dice, J. U. Lloyd, D. T. Long, J. A. Roberts, E. M. Schooley.

The report was accepted and the candidates duly elected, as specified.

ACCUSATION.

Dr. Russell, of Ohio, submitted the following :

"I hereby charge J. M. Hole, a member of the National Eclectic Medical Association, with issuing an unprofessional circular to solicit patronage, the same being contrary to the Laws of this Association.

"SPECIFICATION—A specification is that the language of the circular is bombastic, quackish and false. L. E. RUSSELL, M. D."

On motion of Dr. J. M. Mulholand, of Pennsylvania, the charge and specification were referred to the Committee on Credentials with instructions to make an early report.

The Association then adjourned to meet on Thursday morning at ten o'clock, in order to enable Sections to hold their meetings.

SECTION A.

In the absence of Dr. Milton Jay, the Chairman of Section A, comprising *Surgery, General and Special*, Dr. S. W. Ingraham, of Illinois, was appointed temporary chairman.

The Secretary, Dr. L. E. Russell, addressed the members of the Section upon *Surgical Progress.*

A general discussion followed. President A. J. Howe spoke of treatment and operations for removing Calculus. He exhibited a specimen which he had himself removed, and explained the difficulties which he had encountered. Several other surgeons of merit had given up the case. It was one of the largest of the kind ever successfully removed.

Dr. Younkin, of Missouri, read a paper delineating an improved apparatus and methods for the Treatment of Fractures.

The following papers were submitted :

Railroad Surgery, by Dr. L. E. Russell.

Antiseptic Wound-Dressing, by Dr. David Wark.
Plastic Operation, Dr. T. Hodge Jones.
Bronchotomy, by Dr. W. L. G. Samuels.
When Shall we Amputate? by Dr. J. W. Pruitt.
Rest in Conservative Surgery, by Dr. S. E. Martin.
Thoughts on Surgical Practice, by Dr. Charles Band.
Reports of Surgical Cases Maltreated, by Dr. J. C. Chaney.

A SURGICAL OPERATION.

At this point, Mr. A. Garman, a carpenter employed at Crawford's Opera House, was introduced to the Section by Dr. S. E. Martin. He had fallen from the upper gallery to the parquette, six weeks before, and injured his left arm. President Howe examined him and declared the shoulder dislocated. Dr. Howe showed by measuring that the injured arm was three-fourths of an inch longer than the other.

Dr. Younkin, of Missouri, also examined the case and declared it a sub-glenoid dislocation. The reporters' table was then cleared, and the patient placed upon it for operation. Chloroform having been duly administered, Doctors Younkin and Russell speedily reduced the dislocation.

The Section now adjourned.

SECOND DAY—MORNING SESSION.

SECTION B.

In the absence of the Chairman, Dr. Milbrey Green, the Section on *Medicine, General and Special* was organised by the appointment of Dr. Albert Merrell, of Missouri, as Chairman, Dr. J. A. Munk, of Kansas, being Secretary.

The following papers were read by title and ordered to be delivered to the Secretary of the National Association:

House-Drainage, by Dr. Milbrey Green.
The Ganglionic Nervous System, by Dr. A. Wilder.
Hemorrhagic Fever, by Dr. J. W. Pruitt.
Scientific Basis of Eclecticism in Medicine, by Dr. C. A. F. Lindorme.

Self-Limited Diseases, by Dr. V. A. Baker.

Diabetes, by Dr. M. Robinson.

Practice of Medicine, by Dr. A. B. Woodward.

Rationale of Disease, by Dr. L. P. Borden.

Ozone: Its merits as a Disinfectant, Antiseptic and Antizymotic, by Dr. G. H. Merkel.

Use of Antiseptics in Treatment of the Respiratory Organs, by Dr. J. R. Borland.

Dr. A. Wilder read a paper on *Early Brain and Physical Culture*. He insisted strongly upon the requisites that children should be well born and properly reared. He counted less upon the school and the schoolmaster. Like plants with moderate training, they are nourished and made scholarly by moderate study, but overwhelmed by excess. He was not one of those thinkers who consider the brain as the mind and the bodily structure as the individual. Yet for what he really thought them to be, he would desire great care to be taken of them. The foundation of a vigorous old age is a good constitution of the body in childhood. Temperance in youth makes the best provision for age. The husbanding of the strength makes the individual able for study. He gave *temperance* the Pythogorean definition, "*nothing in excess*." Brain and Physical Culture, accordingly, begin and are directly dependent upon nutritive energy. The food should be wholesome and liberally but not lavishly supplied; digestion must be perfect, or both brain and body are starved. In addition, fatigue should be guarded against. It is the worm that gnaws at the root of all energy, impairs the health, opens the way for contagion and epidemic, and finally destroys life. He repudiated the popular notion that women are physically the "weaker sex;" insisting that they are more capable of endurance, and longer-lived, than men; and their peculiar delicacy and feebleness result from erroneous habits and training.

The Section then adjourned.

MORE NEW MEMBERS.

The President took the chair at ten o'clock and called the Association to order.

Dr. Pitzer, from the Committee on Credentials, reported the names of the following candidates for Permanent Membership, with the recommendation that they be elected, subject to the conditions prescribed by the By-Laws:

From the Eclectic Medical Society of California, W. R. G. Samuels.

From the Eclectic Medical Society of New Jersey, R. J. Bowen, J. W. Bruen, M. Haring, A. L. Gibbs.

From the Central New York Eclectic Medical Society, W. W. Nims, H. W. Parker.

From the West Side Medical Society of the city and county of New York, Thomas Cleland, L. S. Pidgin.

From the Vermont State Eclectic Medical Society, W. F Templeton, George H. Gray, W. E. Bailey.

COMPLAINT IN REGARD TO CREDENTIALS.

The Committee also submitted the following statement:

"Your Committee has met with frequent complications in the examination of Credential certificates, some of them simply naming delegates without informing us of their standing, *whether graduates or not*. In such case we have passed them *on condition* of payment of the membership fee and *furnishing the Secretary* of this Association due evidence of their qualification.

"GEO. C. PITZER, *Chairman*,
"T. ARTHUR WRIGHT, *Secretary*.
"W. T. GEMMILL,
"V. A. BAKER,
"H. WOHLGEMUTH,
"*Committee*."

The report was accepted and the several candidates duly elected under the conditions specified.

LETTER FROM DOCTOR BAND.

The Secretary read the following letter from Dr. Charles Band, of Nebraska:

"CRETE, NEB., June 15, 1883.

"*A. Wilder, M. D., Secretary:*

"DEAR FRIEND:—I take this opportunity to express through you my deep regret at being unable to attend the coming meeting of our National Association. I earnestly hope that it will be successful and prosperous. You will find enclosed my draft for $100. Yours fraternally, CHAS. BAND."

DR. HOLE.

The Committee on Credentials, to whom had been referred the charge and specification against Doctor Hole, with instructions to report at an early moment, then submitted the following report:

"*To the President and Members of the National Eclectic Medical Association:*

"As there has been referred to your Committee on Credentials a resolution relative to one Dr. J. M. Hole, advertising and issuing an unprofessional circular soliciting patronage, etc., the said Committee, having had the same under consideration, beg leave to make the following report:

"*Resolved*, That your Committee deem such action entirely unprofessional and unbecoming, and only calculated to cast odium upon the National Association, and that it ought not to be tolerated. Your Committee therefore recommend that this Association take immediate steps to suspend or expel the said Dr. J. M. Hole, as it may seem proper, for unprofessional conduct.

"GEO. C. PITZER, *Chairman*,
"T. ARTHUR WRIGHT, *Secretary*,
"W. T. GEMMILL,
"V. A. BAKER,
"H. WOHLGEMUTH,
"*Committee*."

The President stated that he had officially notified Dr. Hole that these charges would be preferred against him at this meeting, and requested him to be present and defend himself. He was not present.

Dr. Yost, of Missouri, moved that this Association expel Dr. Hole from membership.

Dr. N. G. Smith, of Indiana, asked for the reading of the circular of which complaint had been made. It was read by the Secretary.

Dr. Munn, of Connecticut, moved the following amendment:

Resolved, That the further consideration of the charges against Dr. J. M. Hole be postponed for one year, and that he be suspended from membership while they are pending.

The President put the question on the amendment, and declared it to have been lost. The original motion was then put to vote and adopted.

QUESTION OF PRIVILEGE.

Dr. Munk, of Kansas, arose to a question of privilege. He was connected with the Topeka Medical and Surgical Insti-

tute, which several were of opinion was advertising unprofessionally. He submitted several circulars and "dodgers" for general inspection, and stated that he had not intended to do anything boastful or overdrawn. He might, however, be in error. He desired the judgment of the Association in the matter, promising to abide by it.

The circular was read and a general discussion followed. The reading of the third Article of the By-Laws was demanded, and the Article was read by the Secretary.

Dr. N. G. Smith, of Indiana, offered a resolution requesting Dr. Munk to withdraw the cards from circulation.

Dr. Munn raised the point of order that no charge having been made the motion could not be entertained.

Dr. Jay, of Illinois, argued that Dr. Munk had asked instructions and it was accordingly the province of the Association to give them.

Dr. Smith moved the previous question, and it was ordered.

The President then put the main question upon the resolution and declared it carried.

INVITATION TO AN EXCURSION.

Dr. Yost informed the Association that an excursion had been arranged for the members to visit Baxter Springs and the Indian Territory. The Baxter Medical Springs Association and the Kansas City, Fort Scott and Gulf Railroad Company had united in the invitation. Special cars would be furnished and a reception given at the Springs, together with an excursion to the Modoc settlement.

Dr. Wilder moved to accept the invitation on Saturday morning.

Dr. Russell moved to amend by substituting Friday.

Dr. Younkin arose to a point of order. The seventh Article of the Constitution fixes the annual meeting for the term of three days, and this amendment proposes to contravene that provision.

The President decided the point of order to be well taken.

The question was then put to vote and the original motion adopted.

On motion of Dr. Wilder :

Resolved, That the thanks of this Association are hereby presented to Dr. P. D. Yost for his good offices which have been so zealously and disinterestedly rendered to procure this entertainment for his fellow-members.

Dr. S. E. Martin, of Topeka, also invited the members of the Association to a reception at his house this evening, at which the ladies of Grace Protestant Episcopal Church would assist.

THE AMERICAN PHARMACOPŒIA.

Dr. J. M. Welch, of Kansas, from the Committee on Pharmacopœia, submitted the following report :

"*To the President and Members of the National Eclectic Medical Association :*

"GENTLEMEN :—Your Committee on Pharmacopœia beg leave to report that they have examined the manuscript of *The American Pharmacopœia*, compiled by Prof. A. Merrell, of St. Louis, now about to be published. The condensed but comprehensive manner of treatment of the subject-matter, and the improvements suggested in both processes for and nomenclature of pharmaceutical preparations therein recommended, will, in our opinion, more fully meet the requirements of our branch of the profession than any publication now extant.

"We therefore recommend its endorsement and adoption as authority by this Association.

(Signed) "J. MILTON WELCH, M. D., of Kansas,
"S. B. MUNN, M. D., of Connecticut,
"H. K. STRATFORD, M. D., of Illinois,
"B. L. YEAGLEY, M. D., of Pennsylvania,
"V. A. BAKER, M. D., of Michigan,

"*Committee on Pharmacopœia of the National Eclectic Medical Association.*

"TOPEKA, June 21, 1883."

The President put the question and the report of the Committee was duly accepted.

IOWA MEDICAL COLLEGE.

Dr. Russell, from the Committee on the Affairs of Colleges, presented the following report :

"WHEREAS, The Medical Department of Drake University, of Iowa, has made application for recognition by the Association ; and

"WHEREAS, This Medical Department has met with some difficulties at home in matters that do not concern this Association ; and

"WHEREAS, This Medical Department is yet new and has gained but little personal foothold, and as this Association prefers to recognise such Institutions as are self-sustaining and honorable, therefore be it

"*Resolved*, That we, the Committee to whom the matters pertaining to the Medical Department of the Drake University were referred, advise that the National Association postpone any action in favor of said Medical Department of Drake University at this time. (Signed)

"L. E. RUSSELL, *Chairman.*

"TOPEKA, June 21, 1883."

Dr. H. A. Reid, of Iowa, opposed the adoption of the report, as unjust to the only Eclectic College in Iowa. Its financial condition was good and it had overcome the difficulties under which it had formerly labored. In the name of the Eclectic State Society of Iowa he entreated the Association not to accept the report.

The President put the question and declared it carried.

Dr. Reid then presented the following Protest and asked that it be entered in the journal of the Association :

"*To the National Eclectic Medical Association :*

"I hereby respectfully file the protest of the Iowa State Eclectic Medical Society against the action of this National Association in regard to the Medical Department of Drake University (Eclectic), at Des Moines, Iowa. This College is in full recognition and good standing with the State Eclectic Medical Society of Iowa, which I represent, and five members of that College Faculty were appointed delegates from the State Society, but on account of railroad wash-outs in Iowa and Missouri, I am the only Iowa delegate present. Signed,

"HIRAM A. REID,

"*Delegate from the Iowa State Eclectic Medical Society.*

"TOPEKA, KANSAS, June 21, 1883."

MORE NEW MEMBERS.

Dr. Pitzer, from the Committee on Credentials, reported the following names of candidates, with the recommendation that they be admitted to Permanent Membership, on condition of furnishing evidence of eligibility and complying with the usual conditions :

From the Kansas Eclectic Medical Association, W. E. Barker, O. W. Baird, J. H. Bonebrake, W. S. Craft, N. H. Clark, E. Crosby, D. W. Else, J. K. Farmer, L. N. Foster, David M. Gillespie, J. Lemon, D. B. McKee, J. S. Morton, J. R. Osborn, A. Reichard, J. K. Rosenberg, A. J. Sax, H. G. Slaven, T. J. Upshaw, E. V. Wharton, J. M. Wilkins, H. D. Williams, M. V. Yancey.

From the Ohio State Medical Association, S. W. Reichard.

The report was accepted and its recommendation adopted.

On motion of Dr. Russell, of Ohio:

Resolved, That the sum of Five Hundred Dollars is hereby appropriated from unappropriated moneys in the Treasury, for the printing and binding of the Eleventh Volume of *Transactions* of this Association, and that the Executive Committee be instructed to exercise reasonable and judicious care in the selection and preparation of matter, that this amount may not be unnecessarily exceeded.

The Association took a recess till two o'clock in the afternoon.

SECOND DAY—AFTERNOON SESSION.

The Association re-assembled and was called to order by the President.

PRESENTATION TO THE PRESIDENT.

Dr. Wilder arose to a question of privilege. It was, he remarked, to prefer a charge against the President. Their worthy associate, Dr. Band, of Nebraska, had commissioned him to present the accompanying testimonial. He then delivered to the President a handsome gold-headed cane, "from Tiffany's," bearing the following legend:

"A. J. HOWE, A. M., M. D., *President N. E. M. A.*,
from Charles Band, M. D., June 22, 1883."

"Doctor Band desires you," he added, "to accept this as a token of his high regard, with his warmest wishes for your welfare and prosperity, and the hope that you will live long to remember with pleasure the time when you were the President of the National Eclectic Medical Association."

The President accepted the gift declaring it the highest honor that he had ever received. He heartily thanked Doctor Band for the generous compliment, and more especially for the good will which had prompted its bestowing.

A paper was read by Dr. H. Wohlgemuth, of Illinois, on the *Abuse of Opiates*.

On motion of Dr. Russell of Ohio:

Resolved, That the acknowledgments and gratitude of the friends and members of the National Eclectic Medical Association are due, and are hereby tendered, to its

most worthy friend and benefactor Charles Band, M. D., of Nebraska, for his renewed generosity, at once liberal and substantial, and that he has our best wishes for health and prosperity and every enjoyable benefit.

PROPOSED AMENDMENT TO THE BY-LAWS.

The Treasurer asked the attention of the Association to its financial condition. For several years it had carried an indebtedness. There would be no such difficulty if members paid their annual dues punctually. The *Transactions* and other expenses were to be met; and so long as these difficulties existed it was not practicable.

President Howe remarked that the annual dues were very low, lower than other societies to which he belonged. He favored their increase to $5.00. It was worth that, he added, to belong to this Association.

Several others spoke in favor of the change.

Dr. Russell, of Ohio, gave notice as follows:

"I hereby give notice that I hereby offer this amendment to Article II., Section 1, of the By-Laws of this National Association, proposing to change the annual dues from three to five dollars."

MEMBERS IN ARREARS.

The Treasurer, in pursuance of Article II., Section 1, of the By-Laws, reported the names of all members in arrears for dues, in open session, for the action of the Association. There were sixty-four in arrear for $3 each; twenty-five for $6 each; and eighteen for $9 each; making a total of $502.

Dr. Munn, of Connecticut, moved that all in arrears for $9 be notified that they must pay their dues or be dropped from the roll.

Dr. Anton replied that the By-Laws made ample provision for such cases. He also read the following By-Law:

"No member in arrears shall be entitled to the printed publications, or to exercise any right of membership."

IOWA MEDICAL COLLEGE AGAIN.

The Committee on the Affairs of Medical Colleges asked permission to present the following report:

"WHEREAS, This Association recognises the fact that the Medical Department of Drake University, of Des Moines, known as "Iowa Medical College," is so connected

with a reputable university as to give this College a standing not usually enjoyed by new institutions; be it

"*Resolved*, That this Association is willing to accept said Iowa Medical College on probation for one year, as has been the usage in such cases; and if a favorable record has been produced at the National Convention, in 1884, this College shall be recognised as in good standing with other colleges of the Eclectic School of Practice.

(Signed) "E. YOUNKIN,
"J. M. MULHOLAND,
"J. T. MCCLANAHAN,
"S. B. FISHER."

A motion to reconsider the resolution, adopted at the morning session, to postpone action in regard to the Medical Department of Drake University was them put and carried. The resolution of the Committee providing for the receiving of the Institution on probation was then adopted.

Dr. Reid, of Iowa, asked leave to withdraw his protest. The Association voted to grant permission.

The Chair was taken by Dr. Stratford, of Illinois, Vice-President. The Association then took a recess.

SECTION C.

Dr. P. D. Yost, of Missouri, chairman, called Section C. to order and announced papers and discussions upon Obstetrics and Gynæcology. Several papers were then received.

The Chairman then addressed the Section upon *Sterility, its Causes and Cure.* After duly considering the principal features of the subject, he referred to the temperamental theories of Dr. W. Byad Powell, to which he excepted, but at the same time asserted his conviction that there was something in a proper adaptation of organisation essential to healthy parentage. If the accurate method could be discovered to determine the proper constitutions, connubial aspirants might be physiologically compatible, and possess genuine affinities, which would assure desirable results. Certainly this subject ought to receive more attention.

Dr. Wilder also took exception to the physiological conjectures of Dr. Powell. He did not believe in his notion of incompatible marriages. Their logical outcome would inevitably be the depopulation of the earth. Every compatible parentage on the Powell theory would result in an offspring

of mixed temperament, till in three or four generations the blendings would be so hopeless that no healthy progeny would be possible. The worst cause of sterility now existing consists in the means employed to escape parentage. Yet every woman suffered by it. Maternity is the true physiological life and is directly promotive of the longevity of women. He believed that genuine compatibility resulted from unselfish affection between parents. He had known robust couples with sickly, effeminate children ; and he had witnessed sickly parents whose offspring were numerous and robust.

Dr. Anton mentioned several examples of intermarriage, where the children were healthy, strong and vigorous. He had given this subject much and earnest attention. His observations were in favor of true physiological compatibility.

A child was now exhibited having an aggravated form of hip-joint disease. Dr. Russell examined the case and explained the peculiarities of the complaint.

A paper was received from Dr. Latta, of Nebraska, on *Criminal Abortion.*

Dr. T. H. Jones, of Missouri, read a paper on *Prophylaxis and Antiseptics in Obstetrics.*

DR. REID'S PROTEST.

The Association resumed its session, Vice-President Stratford in the Chair.

Dr. Reid, of Iowa, rose to a question of privilege. At the morning session he had obtained permission to place on record a protest against the action of the Association in regard to the medical department of Drake University. But during the afternoon the Committee on the Affairs of Medical Colleges had reviewed the matter and reported a new preamble and resolution. The Association had acted favorably in the matter, and he had accordingly asked and received consent to withdraw that protest. It was his understanding that the whole proceeding of the morning would be expunged from the minutes of the Secretary, and not appear as part of the journal. He now learned from the Secretary that he did not so understand the matter.

The Secretary explained that the journal must be a record of the business that had been transacted. The Association had taken certain action that morning. The journal must say as much, or it would not be a full and accurate record of proceedings. The Secretary has no right to mutilate the record, and it is not in the power of the Association to annihilate any fact that has taken place.

Dr. Reid said that if the record of the action of the morning was not expunged, he must insist upon his protest.

After further discussion the matter was dropped by general consent.

Doctor Russell, of Ohio, presented a clinical case to the Association, a man having epithelioma, or cancer of the lower lip. The skin and flesh were nearly consumed. Doctor Russell explained the disorder and its results.

Dr. S. W. Ingraham, of Illinois, read a paper on *Typhoid Pneumonia.* An animated discussion followed the reading. Dr. Baker, of Michigan, suggested treatment with poultices on the body, hot packs, etc.

Dr. Munn, of Connecticut, spoke in favor of *Xanthoxylum* as valuable in such disorders.

The Association adjourned till morning.

SOCIAL MEETING OF THE EVENING.

The members of the National Eclectic Medical Association and the ladies accompanying them were entertained in the evening by the ladies of Grace Protestant Episcopal Church, at the residence of Dr. S. E. Martin, of Topeka. The arrangements were excellent and everything was successful in the point of grace and hospitality.

THIRD DAY.—MORNING SESSION.

SECTION D.

Dr. H. K. Stratford, of Illinois, Chairman of the Section on Otology, Ophthalmology and Laryngology, took the Chair at nine o'clock. Dr. Furber, of Kansas, acted as Secretary.

The Chairman delivered an address on the history and progress of the various departments of Surgical Science embraced within the province of the Section.

Dr. L. T. Beam, of Pennsylvania, read a paper on *The Eustachian Tube*, showing its pathological and etiological relations with diseases of the ear, nose and pharynx.

Dr. Ingraham, of Illinois, also gave a paper on *Perforations of the Membrana Tympani.*

The following papers were also submitted :

Purulent Conjunctivitis, by Dr. W. Baird.

Laryngitis, by Dr. M. M. Miles.

Phthisis of the Larynx, by Dr. D. E. Smith.

Myopia, by Dr. J. R. Borland.

Catarrh, by Dr. J. E. Briggs.

After some brief discussion the Section adjourned.

SECTION E.

No session of Section E. was held. Papers were submitted by title for the Section.

On Small-Pox, by Dr. S. B. Munn.

Considerations in Respect to Vaccination, by Dr. J. Kaye.

SECTION A.

Dr. Jay, of Illinois, called the Section of Surgery to order and delivered an address on the Progress of Surgery during the past year.

After some further discussion the Section adjourned.

ECLECTIC MUTUAL AID ASSOCIATION.

The President took the Chair and called the Association to order.

Dr. Yost read a telegraphic despatch from the agent of the Kansas City, Fort Scott and Gulf Railroad, in regard to members proposing to make the excursion to Baxter Springs and the Indian Territory.

The Chair was taken by Vice-President Stratford.

On motion of President Howe :

Resolved, That a Committee of Five, Ex-Presidents of the Association, be appointed to organise and put in operation an Eclectic Mutual Aid Society, under the auspices of the National Association.

Doctors S. B. Munn, J. R. Duncan, A. J. Howe, A. L. Clark and Milbrey Green were appointed such Committee.

NEW MEMBERS.

Dr. Pitzer, from the Committee on Credentials, reported the names of each candidate for membership as had been submitted, with the recommendation that they be admitted to membership, if coming duly within the provisions of Article I., Section 1, of the By-Laws, namely:

From the Illinois Eclectic Medical Society, N. M. Carter, M. D. Foster, W. G. Le Roy, I. J. Matlock, J. V. Moreland, J. E. Ryan, H. S. Tucker, G. R. Walker, T. W. Williams.

From the Iowa State Eclectic Medical Society, E. H. Carter, A. B. Connoway, E. H. Harris, J. M. Hull, L. D. Johnson, I. W. Martin, J. S. Miller, A. D. Moxley, F. R. H. Reid, A. C. Sherwood, J. R. Smith, Benjamin Thompson.

From the Eclectic Medical Association of Missouri, J. W. Mayberry.

From the Eclectic Medical Association of Mahoning Valley, A. L. Cope.

From the Massachusetts Eclectic Medical Society, W. A. Perrins, Pitts E. Howes.

From the State Eclectic Medical and Surgical Society of Michigan, J. C. Bostick, Paul T. Butler, William B. Church, L. A. Howard, William Jackson, John D. Kergan, C. G. Linsley, E. Martin, J. S. Peters, S. Rowe, L. Sanders, A. B. Way, G. L. Whitford, J. D. Williams.

The report was accepted and the candidates duly elected as prescribed.

ELECTORAL COMMITTEE.

The Association took a recess in order to enable the members and delegates from the several States and Medical Colleges to appoint the Electoral Committee pursuant to Article I., Section 1, of the By-Laws.

The meeting was again called to order by the President.

The roll of States and Colleges was called and the selections of members of the Committee announced as follows:

Arkansas, J. W. Pruitt.
Colorado, T. W. Miles.
Connecticut, S. B. Munn.
Georgia, W. M. Durham.
Georgia Eclectic Medical College, Atlanta, W. M. Durham.
Illinois, G. M. Walker, F. H. Fisk.
Bennett Medical College, H. K. Stratford.
Indiana, S. B. Fisher, J. B. Hudson.
Indiana Eclectic Medical College, J. R. Duncan.
Iowa, J. A. McKlveen, J. A. Reid.
Kansas, J. A. Munk, J. M. Welch.
Kentucky, M. L. Smiley.
Michigan, V. A. Baker, Levi Lewis.
Minnesota, R. F. Lynch.
Missouri, S. S. Carr, R. L. Galbreath.
American Medical College, P. D. Yost.
Nebraska, R. B. Crawford.
New Jersey, A. Wilder.
New York, A. J. M. Purdie, W. R. Hayden.
United States Medical College, A. Wilder.
Ohio, W. T. Gemmill, J. Butcher.
Eclectic Medical Institute, A. J. Howe.
Pennsylvania, W. C. E. Martin, B. L. Yeagley.
Wisconsin, S. S. Judd, George Covert.

IOWA MEDICAL COLLEGE AGAIN.

Dr. Russell, of Ohio, arose to a question of privilege. The Committee on the Affairs of Colleges, of which he was Chairman, had reported a preamble and resolutions, yesterday morning, which the Association had adopted, declining to take any steps toward an official recognition of the Medical Department of Drake University. He complained that the other members of the Committee had, in the afternoon, presented another resolution to place the "Iowa Medical College" on probation with an ulterior view to its acceptance next year, and procured its adoption in place of the former deci-

sion of the Association. The reversal of that action, he was of the opinion, was contrary to good judgment. The medical department of Drake University was torn and rent by dissension, and its quarrels had resulted in depriving the college of whatever claim it might have of favor from this Association. Dr. Russell read extracts from newspapers printed at Des Moines, and a communication from Dr. O. H. P. Shoemaker, reflecting severely upon the Faculty of the institution and their management, and declaring that the relations of the medical department to the University were little more than nominal and had been terminated. Dr. Russell asserted that Dr. Reid, who had been the champion and representative of that institution, had not stated the facts correctly.

MEMBERS IN ARREARS.—BETTER SHOWING.

Dr. Anton, the Treasurer, now reported again the names of the members in arrears, and the amount of each individual's deficiency. The list was now enumerated as follows: In arrears for three dollars, 52; in arrears for four dollars, 1; in arrears for six dollars, 22; in arrears for nine dollars, 17; total indebtedness, $445.

OFFICERS ELECT FOR 1883-4.

Dr. S. B. Munn, of Connecticut, Chairman of the Electoral Committee, submitted the following report:

"The Electoral Committee, appointed pursuant to Article VI. of the By-Laws, met in the adjoining Committee room of this Senate Chamber, and duly organised by the election of S. B. Munn as Chairman, and A. Wilder as Secretary. They then made choice of the following officers of the National Eclectic Medical Association for the ensuing year, namely:

"*President*—Edwin Younkin, M. D., of Missouri.

"*1st Vice-President*—John Milton Welch, M. D., of Kansas.

"*2d Vice-President*—George Covert, M. D., of Wisconsin.

"*3d Vice-President*—Lemon T. Beam, of Johnstown, Penn.

"*Secretary*—Alexander Wilder, M. D.

"*Treasurer*—James Anton, M. D.

"For the next place of meeting the vote was as follows: For Cleveland, Ohio, 16; St. Paul, Minnesota, 9; Cincinnati, Ohio, 7.

"All which is duly submitted."

NEXT PLACE OF MEETING.

The President stated the question before the Association to be the selection of the place for holding the fourteenth annual meeting.

Dr. Lynch, of Minnesota, moved that St. Paul be selected, promising reduction of fare on the Western railroads, whereas the Eastern railway lines would not be thus courteous and obliging.

Dr. Munn remarked that most of the former promised reductions of fare on railroads had been little regarded by the officials of the companies professing to make them. The Western roads exact three to four cents a mile, whereas the Eastern lines seldom exceed two or two and a half cents. The entire amount of reduction made in the West do not make their rates as low as the common charges in the Eastern States.

Dr. Judd desired the meeting to be held in Milwaukee.

Dr. Anton proposed Niagara Falls.

Dr. Wilder objected to Niagara Falls. It is the great begging hole of the American Continent—a place chiefly notorious for petty tricks to worry visitors and extort money. Besides, the Legislature of New York has set measures in operation for establishing a State Park there. When that is accomplished it will be time enough to think of holding a meeting there; and perhaps the characteristic nuisances of the Canada side may then be abated. The Association had received the greatest courtesy and favor at Cleveland, and the public press of that city had not only given it the most flattering attention, but even suggested permanently meeting there.

Dr. Durham, of Georgia, was in hope that before long a meeting might be held at Atlanta. The climate and temperature were more favorable than in many northern cities; and the cost of travelling thither less than on the railroads of the Northern States.

After further discussion the following resolution was adopted:

Resolved, That the selection of the place of meeting in 1884 be referred to the Executive Committee of the Association.

RESOLUTIONS.

On motion of Dr. Albert Merrell, of Missouri:

Resolved, That our hearty thanks are due to the press of Topeka for their courteous and full reports of the proceedings of this Association.

Resolved, That the thanks of the Association be extended the State Eclectic Medical Association of Kansas, to the ladies and citizens of Topeka who have so generously contributed to our entertainment, and to the State and State Officers for the use of the State Building for our meetings.

On motion of Dr. Milton Jay, of Illinois, seconded by Dr. Furber, of Kansas:

Resolved, That the Secretary, Alexander Wilder, be paid two hundred dollars and his expenses for services during the year.

Resolved, That the Treasurer, James Anton, be paid sixty dollars for travelling expenses.

INSTALLATION OF OFFICERS.

The Chair announced the next order of business to be the installation of the officers elect. Doctors Jay, of Illinois, and Welch, of Kansas, were appointed a committee to conduct the new officers to the platform.

Dr. Younkin was introduced as the new President and duly welcomed. He then addressed the Association:

Gentlemen of the National Eclectic Medical Association:

I can but express my thanks for the very high honor you have conferred upon me in electing me to preside over your deliberations. I shall endeavor to perform these duties with credit and to the best interests of the Association. I invoke the aid of every member, and your expectations in carrying out the will of the Association I hope not to disappoint. The mantle which has fallen upon me by virtue of assuming the place of our former worthy President, I am aware, does not fit, but in its wrinkles I trust you will be able to find me. One stroke of this gavel calls you to order, and I hope that two or more strokes will never indicate confusion or disorder.

Dr. Welch, being presented as first Vice-President, rendered his acknowledgements. Doctors Covert and Beam in turn were introduced to the Association and made addresses.

Dr. Wilder thanked the members for their cordial greeting. It was an honor to be appreciated highly. The office of Secretary is one of responsibility, labor and care; and so long as he held it he would endeavor to discharge its duties faithfully, as the servant of the Association.

Dr. Anton declared his gratitude for the confidence and cordial regard which had been extended to him in the important

trust committed to him. The members would hear regularly from him, sometimes importunately, perhaps; but it was all to further the interests of the Association, which had in its turn rendered back to each one abundantly.

CLOSING OF THE SESSION.

On motion of Dr. S. S. Judd, of Wisconsin:

Resolved, That one thousand copies of the Constitution and By-Laws be published in pamphlet form for the use of members of this Association.

The Committee on Credentials reported the name of Robert F. Hirsch, of Nebraska, with the recommendation that he be elected a Permanent Member. The report was adopted.

Doctors S. B. Munn, of Connecticut, and Morton Robinson, of New Jersey, were appointed Auditing Committee for the coming year.

The business of the Association having now been concluded, the President declared the meeting adjourned till the 18th day of June, 1884.

ALEXANDER WILDER, *Secretary*.

PAPERS ACCOMPANYING THE ANNUAL REPORT.

SCHEDULE A.

ANNUAL ADDRESS

BEFORE THE NATIONAL ECLECTIC MEDICAL ASSOCIATION, AT TOPEKA, KANSAS, JUNE 20, 1883.

BY ANDREW JACKSON HOWE, A. M., M. D., *President.*

LADIES AND GENTLEMEN—When people are sick they send for a doctor, and when they are well they laugh at physic. To-day you are well and care little for a discourse on medicine; therefore, I shall say little about the topic which presents so many caprices, which is generally so distasteful.

The average listener wants to hear something startling, something which is revolutionary and convulsive. All are interested in the latest inventions and improvements. The agriculturist is not content with implements which have not been devised or modified within the passing year. The mechanic must possess æsthetic tools; and the railway train is voted slow that does not make fifty miles an hour. The vessel which makes the quickest trip across the ocean is the one most praised.

The conservative septuagenarian may shrug his shoulders, and declare the world is moving too fast for safety, yet the inventive spirit of the age lessens the friction of revolving wheels, and so ingeniously combines force and material that the greatest possible security is obtained. Behold the modern bridge which spans our great rivers. It seems too light and slender for bearing heavy strains, yet the passing train

scarcely makes it tremble. A clumsily constructed affair might tumble or fall through an inadequate display of constructive skill or sheer ponderosity. A carriage, for instance, is only as strong as it may be at its weakest part. To be perfect, like the famous "one-horse shay," it must combine no disproportions. A bulky top helps to break a light wheel, and the thicker the axle, the poorer the pivot, the greater the wear and tear.

ADVANCEMENT AND PLEA FOR PHYSICIANS.

Although the world will be long in attaining perfection in even a few things, it is seemingly never tired of trying to advance. And an encouraging feature of the trial is, that every new point acquired becomes an appreciable help in the way of discovery and improvement. Progress made in one branch of art, science or mechanics means a forward movement along the whole line.

In the general advance everywhere recognisable, Medicine alone is accused of lagging back, of wasting its energies in fighting wind-mills, and of paying undue homage to the Past. It is boldly asserted that physicians of good repute still practice a species of jugglery by pretending that their drugs perform cures, when in fact the recuperative powers of the animal economy do all the healing and mending! These are grave charges, and possibly embrace a moiety of truth as well as a mass of fiction. It ought to be generally confessed that certain more or less innocent deceits are permissable in medical practice. What doctor has not been enjoined a thousand times not to allow the patient to know the worst, if anything bad be discovered in the case? All seem to recognise the fact that a feeble person may be killed with fright.

In extenuation of our professional short-comings, I would remind our accusers that the sick have so much faith in drugs that it would be cruel at least, if not wicked, to tell them the whole truth in the matter. The dispensers of highly potentised medicaments have an excellent following, for many cures attend the administration of "blanks" and "placebos." If the people could realise how little efficacy there is in saccharine pellets, they would turn back to barbarian incantation. Then

again, it should be recollected that an individual may be wise in business transactions, yet be incredibly credulous in matters medical. There is also an analogous incongruity in religious matters. The pundits of India may be masters of philosophy, yet be devotees to an irrational *Theism.*

When Garibaldi submitted to an Italian legislature a scheme for draining the Pontine Marshes, the proposition failed because a majority of the members believed that prayer was efficacious in curing malaria, and it was palpably cheaper than drainage! When the King of Siam was told that he consumed myriads of animalcules every day, he expressed contempt for the assertion; and when the missionary exhibited a multitude of swimmers in a drop of water displayed on the side of a microscope, the prince was excited to such a degree of rage that he stamped the instrument with his feet. He declared that his loyal subjects would become maniacal if they should see what he had seen, and that his people were better off without Christian knowledge of that kind.

In exultant moments we flatter ourselves that scientific methods are everywhere triumphant; that common schools and universal learning have banished superstition and the charms of mysticism; yet, when we visit the abodes of the sick, and find our vaunted physic thrown aside, and in its place are employed goose-oil and other disgusting methods, our high notions of medical practice are lowered a little. But such disregard of our modes need not disturb the philosophical. We should call to mind the fact that ancient medical practice consisted chiefly in the concoction of everything and anything diabolical and shocking—

> "Eye of newt and toe of frog,"
> And "Liver of blaspheming Jew."

Is it a wonder that we here and there meet with a remnant of barbaric incongruity? The priests and sorcerers of ancient Egypt were a self-constituted "Board of Health," and practiced all kinds of deceptions—the people believing that authority to practice medicine came from the gods, and was divine.

Not till the *Rennaissance* did medical men study anatomy, and acquire a knowledge of physiology and pathology.

With the discovery of gunpowder, the art of printing, and the liberty of conscience, came experimental methods in medicine. But it was not easy to strangle belief in the efficacy of the royal touch, the saving service of a martyr's bones, and the curative virtues of water draw from a holy well. Pilgrims to Mecca drink from a stream that arises in the city and is polluted with sewage. But the water has been blessed by Mohamed ; hence his followers think it wholesome and healing. From that pestilential rill starts cholera, that spreads through pagandom and christendom, slaying millions in its meanderings.

BOARDS OF HEALTH SHOULD NOT BE PARTISAN.

This suggests that we should favor well organized and efficient Boards of Heath, and not be opposed to them as some of us have been. We want no partisan legistation in this matter. There should be no favoritism in the creation of such bodies, and the rules adopted should be just and equable. Too often petty tyranny had been exercised by State Boards. We protest against "class legislation" of all kinds and forms. In Tennessee, Texas and some other States, all health officers must be allopathic ; but in the northwest a more liberal policy prevails. Governor Crittendon, of Missouri, has set an example of liberality in a late speech on "Medical Codes," which should be followed by several Excellencies of eastern commonwealths. He predicted that the "non-intercourse" feature of the American Medical Association will be consigned to everlasting oblivion. "One human life," his Excellency says, "is worth more than all the prejudices of all the schools from the day of Æsculapius to the present time." Those are memorable words, and coming from such a distinguished source they will carry an influence in the right direction that has never been felt before.

IMPORTANT SUGGESTIONS.

A young man should never engage in the study of medicine until he has canvassed the impulses of his heart and decided whether he is a philanthropist or not. Physicians seemingly work against their own interests. They obtain a livelihood by

treating the sick, yet they are ever striving to keep people sound and well. If it were not for doctors our legislators would not be able to formulate sanitary measures. We can not cure all diseases, nor can we stay every epidemic, yet we do as much as ought to be expected of us, considering the frail material we have to deal with. Besides, we are not alone in failures. The farmer, if any value can be attached to his everlasting complaints, is never sure of good crops, though his avocation is reckoned among the surest to reward honest toil. Prolonged drouths and myriads of grasshoppers upset the best laid schemes of husbandmen. The hunter often fails to secure game, and the fisherman is proverbially in bad luck. Insurance companies do not always declare dividends, and banks have been known to go into liquidation. If we engage in a suit at law our attorney does not always win the case. In fact, we ought to see at the start that only one side can litigate successfully; often both sides lose, the lawyers, through coincidence or agreement, having consumed everything, leaving absolutely nothing for the unfortunate litigants.

A clergyman is not always sure of pleasing his congregation. He is likely to be too young or too old, or too something else; and there are more schisms in theology that there are in medicine. Even the Society of Friends has a Hicksite faction.

THE PROGRESS REALLY MAKING.

There is a prevailing belief among the younger in the profession of medicine that so much has been attained in the field of discovery that little is left for them. If the notion were based upon truth there would not be much to encourage a man to delve in a barren field, or in an exhausted mine. But I can assure the timid and the faint-hearted, that in the next ten years greater progress will be made in medicine and surgery than has been accomplished in any previous decade.

None but the cowardly and the lazy will concede that the books are closed, and that nothing new or valuable is to be hewn from the future. The physiological methods coming into vogue will soon overthrow much that has been looked upon as settled. Only drones desire to be let alone; they despise

progress because they have to work to keep up! They prefer to believe in the infallibility of the "fathers." I am not one of those optimistic individuals who believe the medical Messiah has come, and that a medical millennium is at hand. But we are enjoying a season of liberal competition which favors advancement. We entertain good will toward all medical men, except vagrants and mountebanks. Let every man have the doctor of his choice, whether big pills or little pills are prescribed. In the great change which is everywhere apparent in the practice of medicine, he is wise who chooses the golden mean and avoids extremes. We do not commend Bouillard, who boasted that he had shed more blood than the First Napoleon; nor the dispenser of the millionth dilution of inanity.

PROFESSIONAL LIBERALITY.

We aim to be Eclectic in the true and best sense of the word. There may be differences or shades of difference among ourselves, yet all strive to be liberal and selective, and we concede the largest liberties to others—to those who differ from us. It is our pride that we are not dogmatic. But in our pretensions it is fit and proper that we examine ourselves, to see whether we are as generous and liberal as we claim to be. I have occasionally met a fraternal practitioner who could not see himself as others saw him, and who held a competitor in utter disgust, when it was evident that the ill-feeling grew out of an existing competition. There are several kinds of strabismus besides that of squinting; and color blindness is only one kind of visual imperfection. The worst state of sightlessness is alleged to be met in those determined not to see—the willfully blind. If a physician be so biased that he cannot behold anything good outside his own dogmatic school, he had better pray for a more liberal spirit, and a wider range of vision.

I wish physicians, in addition to their many good qualities, had a few that seem peculiar to lawyers. The latter may sell their storm and rage, "*Iras et verba locant*," as the Roman poet, Martial, has declared concerning them, yet they are

friendly in regard to their professional interests. Judge West, the blind jurist of Ohio, was reflecting upon himself and his profession, when he asked a witness, who happened to be a lawyer, what his avocation may have been before he became a lawyer and followed some *honest employment.*

PHYSIOLOGICAL EXPLORATIONS.

I have alluded to the physiological method of investigating disease, and wish I could make the subject plain. But as the essence of vitality can never be expressed in words it would be idle to attempt to expand upon the topic. We can dissect and display organic structures, and observe vital manifestations—the phenomena of living things—and compare them with disordered tissues and phases, yet never comprehend the living principle of the humblest creature. By the aid of lenses the animalcule can be viewed, but its spiritual individuality can not be seen.

When there is a proper co-ordination of organ and function in a living being, a state of health is present and enjoyed, but as soon as the harmonious relation is disturbed by an extrinsic or intrinsic force or influence, the vital phenomena are modified —perturbed—and become pathological. A morbid condition is a thwarted or perverted state whose mission was to be physiological. Health, then, is natural and normal, and disease is an abnormity which may be potent enough to maim or kill. The conservative and recuperative activities tend to overwhelm a morbid process, but may prove incompetent without the aid of assistance in the shape of judiciously selected remedies which act as correctives of morbid states and tendencies.

WHAT A PHYSICIAN SHOULD DO.

To select the best remedial agent or agency after the nature of a disease has been ascertained is a work of time spent in experimental efforts. If a medical man would make progress in his age and generation he must labor methodically and with a purpose always in view. He must love his profession with a depth of affection as great as that of Jacob for Rachael. He must be willing to toil twice seven years for the tempting

prize. Success in medicine does not depend as much upon the style or mannerism of the doctor as is generally supposed. A peculiar garb or odd way may catch the eye of the gullible, but sensible people want a physician of education, refinement and candor. A practitioner of medicine who can command the respect and the patronage of the discriminating and judicious need not be concerned about his income, for such patients pay bills.

The great stumbling block in the way of medical progress consists in the fact that drugs have principles and properties ascribed to them which they either do not possess, or only so to a degree not worth mentioning. Now, to test all kinds of medicines, to find their relative and essential worth, is a labor too great to be accomplished by one man or a single generation. A physician who has experimented long enough to be a reliable observer has only time to prove a few agents. The presumptive, in an unwarranted haste to cover much ground, have contributed more confusion than real good. And until we resolve to go slow in this matter we shall make little valuable headway. The stupid and conceited mediciner who concocts a villainous mess and imagines, because a patient survives after taking it, the compound is either valuable or in the remotest degree scientific, is a victim of a cherished delusion. Progress can never be made with compounds.

The surgeon enjoys the best opportunity to attain accuracy, both in diagnostics and therapeutics. He must make a nice diagnosis, or disgracefully fail ; and he must prescribe with precision or fail of his purpose. His remedies must possess positive qualities, hence he deals in *specifics*. If he have a malignant ulcer to cure, he cannot dawdle with placebos. If a constitutional vice is to be eradicated before an inflamed joint will get well, the surgeon must employ remedies that manifest activity. He will lose his patient if he trust to feeble vital powers and feebler medicines. It is said that the best physicians have little of the surgeon in them, but I do not believe it. My understanding of the matter is, that there should be more of the surgeon in the average physician. There should be in him more acuteness in diagnostic powers,

and a better aim at accuracy in the application of remedies. The surgeon cannot afford to be slovenly and careless in such matters. His success depends entirely upon correct diagnosis and precision in the application of curative agencies.

WHAT IS REQUIRED BY PHYSICIANS.

Medical men cannot be denominated a favored class—a fortunate set who enjoy sinecures. Among them are few men of leisure. Most of them are on active duty, like soldiers "at the front." Every night their sleep is likely to be disturbed. Theirs is an avocation which admits of no excuses; and for physicians there are no holidays. They must travel bad roads in stormy weather; and sometimes it seems as if the very fates had conspired against them. An approaching plague is reported, and all who can will flee to the mountains—save the physician; he must remain to take care of the poor who are unable to seek healthier retreats. Cholera and yellow fever, with ghostly insignia, stalk into our streets, and the doctor makes hourly visits to the abodes of the stricken and dying. Valiant committees are distributing aid at the doors of the sick, yet the noble bands know little till they hear from the medical corps. The reports are unfavorable; the scourge is on the increase. Several over-worked physicians have fallen victims to stifled air and the pestilence. Who shall fill the vacant places? The distressed city calls for medical volunteers, and does it call in vain? Let Norfolk and Memphis answer. The medical man is a philanthrophist and a hero. On the battle-field and in the fever-smitten camp the courage and endurance of the physician stand unchallenged.

In the sick room, where a confiding patient anxiously awaits the doctor's coming, there is a smile of renewed hope when the announcement is made that the longed for is here! The wailing child, whose thread of life seems of utmost tenuity, is under the doctor's charge; and solicitous parents have placed the precious treasure in the hands of him in whom all confidence is reposed. Are they to be disappointed? What a responsibility to assume! If he lose he is as deserving of praise

as if he won, yet who is appreciative enough to bestow the due reward?

The unprofessional, in idle curiosity, may wish to know a doctor's feelings under trying circumstances, and desire to pry into the secrets of medicine; but "only those who brave its dangers comprehend its mysteries."

SCHEDULE B.

STATUS OF ECLECTIC MEDICINE.

CONSTITUTION—*Article V.*—"It shall be the duty of the President to appoint Committees of persons in every State having in it a State Eclectic Medical Society, to attend the meetings of the Eclectic Medical Societies of the States in which they respectfully reside, and to report in writing at the annual meeting of this Association the prosperity, membership and condition of such Societies, and such facts in regard to the welfare and prospects of Reformed Medicine in the States as shall appear to them of importance. Their reports, or a proper abstract of them shall be included in the published *Transactions* of this Association."

ARKANSAS.

RUSSELLVILLE, June 8th, 1883.

Alexander Wilder, M. D., Secretary, etc.:

DEAR DOCTOR:—In regard to the Status of Eclecticism in the State of Arkansas, I take pleasure in reporting the progress which has been made. Our State Association met at Conway, May 16th, 1883. There was an increase of membership and interest. Many scientific papers were read that would pass muster anywhere, and interesting cases in practice were reported and discussed. The President in the evening delivered a public address, setting forth in an effective manner the

distinctive features of the Eclectic practice and its superiority over the old, greatly to the enlightenment and appreciation of the audience. The members of our Association are harmonious and full of enthusiasm, and the Association is becoming a power in the State.

The officers elected for the coming year are as follows: President, J. M. Park, M. D., Cabot; First Vice-President, J. J. Jones, M. D., Conway; Second Vice-President, J. M. Yancey, M. D., Russellville; Secretary, L. E. Cook, M. D., Russellville; Corresponding Secretary, J. F. Bell, M. D., Cabot; Treasurer, J. W. Pruitt, M. D., Russellville.

The next annual meeting will be held at Cabot, on Wednesday, May 21st, 1884.

J. W. PRUITT, M. D.

CALIFORNIA.

318 SUTTER ST., SAN FRANCISCO, May 27, 1883.

Dr. A. Wilder, Secretary, etc.:

Your Committee on the Status of Eclectic Medicine for the State of California reports as follows: The early days of Eclecticism in this State were clouded by the actions of a number of charlatans who assumed our name and attempted to force honest Eclectics to assist them in repelling the attacks of other physicians. They had, indeed, at one time, through their boldness and combination, almost captured our State Society; but, thanks to a judicious medical law, and the efforts of true Eclectics, they have been routed, many retiring in disorder from the field, while the least objectionable among them remain in quiet oblivion. We are now steadily increasing in numbers and influence, and hope that in a few more years ours will become the prevailing popular practice of medicine throughout the State. We have an excellent institution, the California Medical College, (Eclectic), in the city of Oakland, a few minutes ride from San Francisco, and a journal (*The California Medical Journal*), that will compare favorably with most of those published in the Eastern States. The hand of death has been busy among the foumders of our College, laying low such men as Doctors Webb, McRae,

Bundy and Kendrick; yet we have been able to maintain a full corps of competent professors, and the classes have steadily increased both in numbers and excellence of material. Our standard is as high as the highest, and our graduates will not take a back seat for any in the land. Our College is now in its fifth year and may be considered one of the established institutions of the country. The address of the Dean, Dr. D. Maclean, is 324 Sutter street, San Francisco.

The fortunes of our State Medical Society have varied during the eight years of its existence; but it is now peaceful, successful and respectable. It contains over fifty contributing members. The non-payers are dropped after three years of arrears.

The officers for 1883 are: President, D. Maclean, M. D., of San Francisco; First Vice-President, F. Cornwall, M. D., of San Francisco; Second Vice-President, J. A. McKee, of Williams; Recording Secretary, M. H. Logan, M. D., of San Francisco; Corresponding Secretary, A. S. Cook, M. D., of San Francisco; Treasurer, O. P. Warren, M. D., of Oakland; Censors, Geo. G. Gere, San Francisco, H. T. Webster, Oakland, and A. W. Bixby, Watsonville; State Board of Examiners, Doctors Maclean, Gere, Schmitz, Cornwall, Coleman and Herzstein, of San Francisco, and Dr. Warren, of Oakland.

We have a balance in the treasury of about one hundred and fifty dollars, and "owe no man anything." At the last session of the Society nine members were admitted and one withdrew. We appoint five committees of five members each to investigate the physiological and therapeutical action of five different remedial agents, and report at the December meeting. I will mention the names of the chairmen of the committees, with the subject of their investigations for this year, hoping that any physician having special experience with or knowledge of any of these remedies will be kind enough to communicate any facts of importance regarding them to the chairman of the proper committee.

Committee on Ustilago Maidis, Dr. A. W. Bixby, Watsonville, Cal.

Committee on Jaborandi, Dr. H. T. Webster, Oakland, Cal.

Committee on Iris Versicolor, Dr. O. P. Warren, San Francisco, Cal.

Committee on Mangifera Indica, Dr. Geo. G. Gere, San Francisco, Cal.

Committee on Apis Mellifica, Dr. M. H. Logan, San Francisco, Cal.

Hoping for a successful session of the National,

I am, respectfully yours, GEO. G. GERE, M. D.

CONNECTICUT.

To the President of the National Eclectic Medical Association:

The Eclectic Medical Society of Connecticut met at Hartford on Tuesday, May 8, 1883. The following officers were elected: President, Theodore Brockway, M. D., New Hartford; Secretary, N. D. Hodgkins, Rocky Hill.

There are about one hundred members of the State Society; also a large number of practitioners variously classified that are not enumerated with any society, many of whom practice medicine after the Eclectic methods. So far as I am able to ascertain the members of the Society, the greater part of them, are in prosperous circumstances, possessing good reputation as practitioners and a respectable practice.

The interest manifested in the State Association has increased very much in the past four years. The Society grows stronger yearly, and its meetings are much better attended. Connecticut was early a battle-ground between the Old School and the Reformers. As early as 1836 a strong Thomsonian Society was organised at Hartford. After ten years of persistent effort a Charter was received from the Legislature in 1847. The Society was incorporated as the *Botanico-Medical Association.* The provision of this Charter allowed its licentiates full legal status as physicians and surgeons. A period was thus put to legal prosecutions against "irregular" practitioners.

About this time one Dr. Frost, of Bridgeport, was tried for his life for murdering a man with mandrake. From 1848 to 1854 the rapid progress in medical knowledge and general science rendered it impossible for all the practitioners of the

new faith to remain grouped with the original Thomsonians. The old men who had led the fight for years against medical intolerance considered their first Charter and victory as embodying everything. But the younger men, with facilities for more liberal education, recognised the facts of progress. Led by Prof. J. W. Johnson, of Hartford, this element separated from the old body, and succeded in 1855 in procuring a Charter for the Eclectic Society of Connecticut. This statute was similar in its terms with the one of 1848, but more extensive in its powers. Since this date the cause of Liberal Medicine has been slowly and surely gaining among the people of the State. As in other States the Old-School fraternity do not witness this growth with equanimity. Various attempts have been made to procure exclusive legislation favorable to a renewal of their power, but up to the present time all such efforts have failed. So far as can be ascertained the tendency of practice in the State is toward small doses and direct remedies.

The general increase in number of Eclectic and Homœopathic practitioners and their serious competition with the Old School is leading to the same results here as in New York. Specialists consult freely with all practitioners of reputable standing in society, and many of the blue-blooded "regulars" of the cities are not averse to consult with "irregulars" in country towns when good fees can be obtained. From the outlook I think that we can confidently expect steady improvement from the Eclectics of Connecticut.

Fraternally submitted,

F. H. WILLIAMS.

BRISTOL, CONN., June 10, 1883.

IOWA.

By J. A. MCKLVEEN, M. D. Chariton.

By examination I find no report in the *Transactions* of the National Association upon the status of Eclecticism in Iowa since my last report at Chicago, in 1880. Our State Society still continues in the same prosperous condition as then, each year adding to its membership a few active, energetic men.

One year ago the Society published its *Transactions* for the whole time of its existence, so far as the papers could be gathered; making a very creditable volume at an expense of between three and four hundred dollars. The annual meetings have been held for years at Des Moines, and are better attended there than at any other point. They continue two days and there is always much work accomplished, the time seldom being sufficiently long even with night sessions to get through with all that is laid out for the occasion.

IOWA MEDICAL COLLEGE.

Two years ago the Society, after a long and spirited debate, appointed a Committee of Five of its leading members to inquire into the expediency of organising an Eclectic Medical College. The committee finally decided, after a number of meetings, in favor of such an institution, and established it in city of Des Moines. About this time Drake University, a young and growing institution, made a proposition to unite it to their school as its *Medical Department.* This proposition was duly accepted and so it still stands. The Medical College was opened on the first Monday in January, 1882, with a full Faculty and a fair class of students. It has now completed its third term of twenty weeks.

It is with sorrow that we chronicle the death of John Conoway, M. D., of Brooklyn, Iowa, who was a valued member of our State Society, and at the time of his death filled the Chair of *Obstetrics and Diseases of Women* in the Iowa Medical College. With this single exception our ranks have been unbroken by disease and death and the very kindliest and most fraternal feeling exists among the members of the Society in so far as the Society itself is concerned. There was an unsuccessful attempt at our last meeting, however, to foist some personal matters in relation to the College upon the Society which if successful might have been attended with unpleasant results. But all these obtrusive personal questions were met by the Society in a manner to preserve unity and good feeling among its members.

The officers elected for 1883–4, are as follows: President,

Thomas Garth, M. D., Clarion; Vice-President, H. O. Conoway, M. D., New Sharon; Recording Secretary, A. D. Moxley, M. D., Kellogg; Corresponding Secretary, J. M. Hull, M. D., Lake Mills; Treasurer, J. A. McKlveen, M. D., Chariton.

KENTUCKY.

The annual meeting of the Kentucky State Eclectic Medical Association was held at No. 171 York street, Newport, on Tuesday, June 5, 1883. The Chair was taken at ten o'clock in the morning by Dr. M. H. Smiley, Vice-President.

The reports of the Treasurer, Secretary, and of the several Standing and Special Committees were received and placed on file. Letters were read from absent members and physicians in sympathy with the Association.

Dr. Poe presented an interesting clinical case for examination. An animated discussion was also held upon the subject of *Purpura hæmorrhagica.*

Papers were read upon the following subjects, namely:

Specific Medication, by Dr. Frank E. Locke.

Iodoforem, by Dr. J. A. Jeançon.

Hæmorrhoids and Fistula, by Dr. James Walters.

Aconite: Its Uses and Abuses, by Dr. L. C. Smyth.

The names of five candidates were submitted and they were duly received as members. The election of officers for the coming year was held and resulted as follows: President, Martin L. Smiley, M. D., of Catlettsburg; First Vice-President, L. Poe, M. D., of Grant's Lick; Second Vice-President, N. J. Crance, M. D., of Indian Springs; Treasurer, Frederick J. Locke, M. D., of Newport; Secretary, Charles A. Jeançon, M. D., of Newport; Librarian, Frank E. Locke, M. D., of Newport; Delegates to the Eclectic Medical Association at Topeka, F. J. Locke, M. D., M. L. Smiley, M. D.

RESOLUTIONS.

The following resolutions were adopted:

WHEREAS, There is a lack of proper enthusiasm among the Eclectic physicians of the Southern States, which is shown by their neglect of State Medical Associations; and

WHEREAS, A State Medical Association is necessary in order to procure proper recognition of the rights and privileges, by legislation or otherwise, of the Eclectic faith; be it

Resolved, That the Kentucky State Eclectic Medical Association do make an earnest appeal to all liberal-minded physicians in the State of Kentucky, to enroll their names as members of this Association.

Resolved, That Kentucky shall come to the front as the Banner State of the great South in the matter of liberty of thought and action in the medical profession to the end that the Eclectic practice, untrammeled by codes and unjust legislation, shall be recognised alike by friend and foe as THE faith.

Resolved, That we appeal to our friends in the sister States to rally round the standard of Reform, and aid in the glorious work of throwing off the yoke of despotism that has so long been resting on the shoulders of the people; to send the veil of darkness that has surrounded the quackery and imposition of the Old Practice, and by the refulgent beams from our new school of medicine show up the old Juggernant in its true colors.

The President delivered an eloquent address in advocacy of Reformed Medicine and the sentiments expressed in these resolutions.

The next annual meeting will be held June 4, 1884.

CHARLES A. JEANÇON, *Secretary*.

MASSACHUSETTS.

To the National Eclectic Medical Association:

Eclectic Medicine in Massachusetts is far more than maintaining its prestige of former years. It was never better understood, and therefore appreciated, than to-day. Its chief representative, the Massachusetts Eclectic Medical Society, is largely composed of earnest, active and progressive men; is in a vigorous and prosperous condition, and is receiving frequent accessions. It guards with zealous care the character of its membership, and there is a fine *esprit de corps*. It rests upon a sound financial basis, and has upward of a thousand dollars in its treasury. Almost without an exception its members are doing a prosperous business, and there is a demand for educated Eclectic physicians in many of our largest cities and towns. One of its healthiest offspring is the Boston District Eclectic Medical Society. Its meetings, held monthly, are of much more than ordinary interest, and are well sustained. Here also the *esprit de corps* is high, as evinced by the fact that several members, who are seldom

absent, come a considerable distance—in one case upward of seventy miles—and are unable to return home until the following day. The Boston Eclectic Gynaecological and Obstetrical Society is also a vigorous organisation, holding meetings bi-monthly, the interest of which is well sustained. Another is the Worcester North Eclectic Medical Society, which meets at Fitchburg, and is under the direction of such sturdy men as R. W. Geddes, H. H. Brigham and N. Jewett. The above are all incorporated bodies.

The Massachusetts *Eclectic Medical Journal*, published monthly, is now entering upon its fourth year. It long ago passed the experimental stage, and is in a very prosperous condition, having a wide circulation and influence. It is Eclectic and says so openly.

The charter of the Worcester Medical College, from which went out so many good men and true in years gone by, is still kept in tact, though no session hasbeen held for several years. Eclectic Medicine here as elsewhere is well appreciated when understood, and our greatest need to-day is an influx of thoroughly educated Eclectic physicians, and to such we firmly believe Massachusetts to be a most inviting field. In almost any one of the thriving manufacturing centres of this or the adjoining States there is room—nay more, a positive need for men of the right sort—and it is our confident opinion that such men can secure both social and professional success here in less time, on as small capital, and with far less hardship, than in any of the more remote regions of our country. Such men, too, would be heartily welcomed by every Eclectic in the State.

Doctors C. E. Miles, 126 Warren street, Boston Highlands, or Milbrey Green, 2389 Washington street, Boston, would willingly give more definite information if desired.

ROBERT A. REID, *Reporter.*

MISSOURI.

By E. YOUNKIN, M. D.

Gentlemen of the National Eclectic Medical Association :

The State of Missouri comprises 114 counties, and I have a pretty reliable census of the physicians of 102 counties. By

comparing the population of the twelve counties, of which we have no report, with counties of the same region, we arrive at a fair answer for these twelve counties. We have in the State 4,834 individuals attempting to practice medicine—of these 4,679 are men and 155 are women.

The different schools of medicine are represented as follows:

Allopathic, or "Regular,"	3,453.
Eclectic,	581.
Homœopathic,	217.
Nondescript,	583.
Total,	4,834.

Of this number only 2,546 are known as graduates of reputable Medical Colleges, and twenty of these are women. We have, therefore, 2,288 non-graduates, 2,153 of whom are men and 135 are women. We have 269 persons mainly of the disreputable graduates, or non-graduates, that are either known or strongly suspected to be abortionists. Of these 230 are men and 39 are women.

The following is a list of the graduate and non-graduates of each School of Medicine so far as we have been able to make an estimate:

Allopathic Gradutes,	2,102;	Non-Graduates,	1,351.
Eclectic "	301;	" "	280.
Homœopathic "	143;	" "	74.

Proportionately the per cent. of non-graduates in the different Schools stands nearly the same. Thus we have 1,351 Allopathic "quacks"; 280 Eclectic "quacks", and 74 Homœopathic "quacks."

The 583 nondescript are made up from the Hydropaths, Vietopaths, Electropaths, Rubbers, Spankers, Faith-doctors, Magnetic Manipulators and Botanics. It is due to state that the latter named have a few gradutes, but no identity in the way of State organisation, so far as we can determine.

We have had a law in the State of Missouri pretending to *regulate* the practice of medicine since March, 1874, but this law has proved quite inadequate. It permitted everybody to register, and many who had an idea of practicing medicine some time in the future went forward and put down their names.

This law provided that after September, 1874, every person commencing the practice should file a copy of their diploma with the County Clerk, but it made no provision against the filing of bogus diplomas or diplomas from disreputable concerns. So that the operation of this law rather placed a premium upon the bogus diploma business, giving prestige to such "wild-cat" institutions as are to-day cursing all the Schools of medicine.

The reputable physicians, feeling the shame brought upon them by the above state of affairs, set out to rectify this evil. During the session of 1880 and 1881 another bill was drawn up. Instead, however, of the different schools acting in harmony in the framing of this bill the dominant party sought to run this matter in their own way. The bill savored so much of the invidious to other laudable measures that it met with bitter opposition and was defeated in the Senate.

Last winter we had a bill passed by the Senate and signed by the Governor, creating a Board of Health whose business it shall be to do away with all foolishness and superfluity of professional nastiness. Each School of Medicine must have a man on this board and we hope great good to follow. The appointment of Dr. P. D. Yost, I understand, has been made by the Governor.

"The Eclectic Medical Society of Missouri," is in a lively and healthy condition. Its membership is about 200. We are sorry to say that a large share of the Eclectic physicians do not see the importance of applying for membership in their State Society, yet there is virtually no antagonism to meet. It would seem from some of the past records that Missouri had two State Societies, but this is not true in fact. The books of the "Eclectic Medical Association of the State of Missouri" were at one time purloined and the Association having neglected to complete the incorporation, the filchers completed the incorporation and sought to carry on the work. The members of the Association then started under the name of "The Eclectic Medical Society of Missouri," and the other died its natural death. The State Society has just closed its annual session at Carthage, Missouri, with a most profitable

and interesting time. Its delegates to this, the National Association, are R. S. Galbreath, J. W. Mayberry, T. H. Jones, J. T. McClanahan, G. D. Coe, E. Younkin, J. W. McClanahan, G. C. Pitzer, S. S. Carr.

Its officers for the ensuing year are: President, T. Hodge Jones, M. D.; Vice-President, Dr. Fisher; Secretary, R. L. Galbreath, M. D.: Treasurer, E. Younkin, M. D.; Recording Secretary, R. R. Smith, M. D.

Its next meeting will be at the place and time to be designated in the call of the officers.

PENNSYLVANIA.

BY A. B. WOODWARD, M. D.

The last annual meeting of the Eclectic Medical Association of the State of Pennsylvania was held at the Council Chamber of the city of Franklin, June 15th, 1883.

Dr. John Kaye, the President, being absent, the Chair was taken by Dr. John M. Mulholand, of Pittston.

Dr. William P. Biles, President of the Eclectic Society of Northwestern Pennsylvania, delivered an address welcoming the Association to this district of the State.

Dr. J. R. Borland, also in behalf of the citizens, welcomed the Association to the county seat of Venango county.

The morning session was devoted to the receiving of new members, scientific papers, and discussion of professional subjects.

AFTERNOON SESSION.

The President, Dr. Kaye, and the Secretary, Dr. William Hargreaves, having now arrived, entered upon the discharge of their respective duties. Fifteen delegates were elected to attend the Annual Meeting of the National Eclectic Medical Association at Topeka.

The following officers were chosen for the coming year, namely: President, David E. de Ross, M. D., of Corry; Vice-President, Lemon T. Beam, M. D., of Johnstown; Recording-Secretary, William Hargreaves, M. D., 2725 North Front-

street, Philadelphia; Corresponding Secretary, J. R. Borland, M. D., of Oil City; Treasurer, H. B. Piper, M. D., of Tyrone; Surgeon, J. M. Mulholand, M. D., of Pittston; Censors, Doctors P. D. Flower, C. D. Thompson, J. S. Kugler, C. M. Ewing, G. E. Potter.

The Committee on Legislation was also appointed.

The next annual meeting was appointed at Tyrone, on the first Wednesday and Thursday (the 4th and 5th) of June, 1884.

EVENING.

The death of two members, C. Bixby and H. B. White, was announced. Eight new members were received, President Kaye addressing them as he presented their certificates of membership. The new officers were then installed.

Dr. H. B. Piper addressed the Association on *Ancient Medicine*. Dr. L. T. Beam followed with a discourse entitled: "*Why am I an Eclectic?*"

Dr. Kaye read a paper on *Vaccination*, taking adverse grounds. A lively debate followed, after which the Association adjourned.

The general tone of the meeting showed more determined zeal and purpose. Attempts are making at the Legislature to secure oppressive and proscriptive statutes, and the members are becoming nerved to resistance.

There are four auxiliaries, the Central, Northwestern, Susquehana and Philadelphia. These occupy the northern and eastern regions of the State.

CENTRAL ECLECTIC MEDICAL ASSOCIATION OF PENNSYLVANIA.

The seventh annual meeting of the Central Eclectic Medical Association was held at Johnstown, May 24, 1883. Every member almost was in attendance and a lively interest exhibited. Papers were read by Doctors W. C. Beam, H. B. Piper, S. L. Beam and others; and directed to be published in the *Keystone Medical Journal*, the organ of the Eclectics of Pennsylvania. The following officers were elected for next year: President, Daniel A. Arter, M. D., of Greensburg; Vice-Pres-

ident, Henry B. Piper, of Tyrone; Secretary, B. L. Yeagley, of Johnstown; Treasurer, Thomas L. Bulick, of Altoona.

NORTHWESTERN ECLECTIC MEDICAL ASSOCIATION OF PENNSYLVANIA.

The Northwestern Association met at Franklin, June 14, 1883, Dr. Isaac St. Clair, presiding. A considerable attendance from other parts of the State was present. The following officers were chosen: President, William P. Biles, M. D., of Union City; Vice-President, A. R. McCormick, M. D.; Secretaries, D. E. de Ross, M. D., J. R. Borland, M. D.; Treasurer, Alexander Thompson, M. D.; Surgeons, I. St. Clair, M. D., A. Thompson, M. D.; Censors, Doctors R. E. Vanattine, I. St. Clair, P. D. Flower. The session was taken up with professional discussions, reports of cases and routine business. Every indication of prosperity was apparent.

The State and auxiliary societies are steadily increasing in numbers; yet, as is too frequent, a large number hold aloof. This throws the work on the few, and has more than once retarded progress. But the aggressive temper of the Old School, the conduct of their two medical colleges in refusing to comply with the law in respect to diplomas from Eclectic and Homœopathic Colleges, etc., is doing its perfect work in the way of showing Eclectics that they have neither justice or mercy to expect.

TENNESSEE.

Having been appointed to report upon the Status of Eclectic Medicine in Tennessee, I shall proceed without any preliminary apology. I have a list of one hundred and five Eclectic physicians in the State, and personal knowledge of about fifty of them. We have made no effort to have a State meeting this year. A few only of the Eclectics of Tennessee will take interest in the maintaining of a State Society. Those with whom I am acquainted are busy with their professional practice, and complain of not having the time to attend society meetings. I am of the opinion that we must rear a new generation of practitioners before we can have and sustain an organisation.

It is possible, nevertheless, and I will suggest it: That if some of the older Eclectics will take this matter in hand, there will soon be a first-class State Society. That we ought to have a well-organised State Society, there is no doubt. Eclectic Medicine, without such an organisation, will finally go to the wall in Tennessee. In every State where there has been an efficient Society, Eclecticism has grown with wonderful rapidity.

The last Legislature of Tennessee had the usual number of Medical dead-beats urging the enactment of statutes for the purpose of placing the control of the Practice of Medicine in the State into the hands of a few Old-School doctors. The Legislature wisely refused to pass any measure which would not recognise Eclectics as upon an equal footing legally with any other school of Practice.

Unfortunately, however, the law in regard to Vital Statistics has been repealed. It was enacted two years ago, and ought to have been amended, but not abolished. We can assure a better and more intelligent preventive Medicine by having correct reports on Vital Statistics. There will be no such reports, except we have laws to require them. I would plead with every Eclectic in Tennessee to encourage our next Legislature to enact a fair constitutional statute.

In regard to Medical Ethics I can speak only from experience. I have found but one Old-School practitioner in several years who was unwilling to consult with me. I have never had the unpleasant experiences that usually attend such consultations.

I hope to be able to make a more encouraging report next time. Your obedient servant,

W. H. HALBERT.

LEBANON, TENNESSEE.

VERMONT.

BY P. L. TEMPLETON, M. D., MONTPELIER.

In 1866 the following "call" was issued to the Eclectic physicians in the State:

CIRCULAR.

"DEAR SIR:—A meeting of the Eclectic physicians in Vermont is to be held in Montpelier, at Village Hall, on Wednesday, June 6th, 1866, at 10 o'clock A. M., for the purpose of forming a State Eclectic Medical Society. The attendance of every Eclectic physician in the State is earnestly desired, and it is hoped that you will endeavor to be present."

To this call twenty-eight names were attached.

The meeting was held June 6th, 1866, sixteen physicians being present. They organised by electing officers *pro tem.*, after which a committee was appointed to prepare a Constitution and By-Laws, which were adopted and signed by all present. Permanent officers were elected for the ensuing year. The propriety of taking immediate steps to procure a Charter from the State Legislature was considered. Petitions were ordered to be printed and to be sent, with the Constitution and By-Laws, to the Eclectic physicians of Vermont. The application was successful and the Society was incorporated November 9th, 1866.

A semi-annual meeting was held October 18th, 1866, since which the official meetings have been annual. The one-day session with which they began, was, in 1873, extended to two days. In 1876 a seal was purchased by the Society. They also passed a law recognising no physicians in the State as Eclectics, excepting members of the Vermont State Eclectic Medical Society. This was printed and a copy forwarded to each physician in the State professing to be Eclectic.

In 1880 certificates of membership were printed and issued to members of the Society. In 1881 a Legislative Committee was appointed to watch the proceedings of the Legislature, and to act for the Society in regard to all legislative proceedings relating to the practice of medicine. This Committee consists of five members and is annually appointed.

The last meeting of the Society was held at Montpelier, May 30th and 31st, 1883. A Committee of three was appointed to revise the Constitution and By-Laws, and to prepare a Code of Ethics. They will report at the next annual meeting. The Secretary, George H. Gray, was appointed to attend the next annual commencement of the Maine Eclectic

Medical College, at Lewiston, Maine, his expenses to be paid by the Society.

As no delegate from the Society had ever attended the National Association, and no communication had been held with it direct, the Society adopted resolutions expressive of sympathy and accord.

The Constitution was so changed that the annual meetings will, in future, take place the third Wednesday and Thursday in June, the present date (the last Wednesday and Thursday in May) being often too cold and inclement.

The financial condition of the Society is good. At present the treasury contains seventy dollars over all demands.

Several attempts have been made by the Old School to gain control of the State in medical matters. The attempt was made in 1878 to establish a Board of Health, to be constituted of "regular" physicians. The measure was defeated. An endeavor was then made to procure a bill requiring every physician without a diploma to pass an examination before the Faculty of the Medical College at Burlington. This was also defeated. A bill in favor of Old-School domination was prepared in 1880, but the Committee on Legislation were watchful. The bill was held ready to be sprung upon by the House at any moment, but its defeat was sure. *The opportunity* did not appear; neither did it arrive in 1882. So the fight goes on, but there is no danger for Liberal Medicine in Vermont.

NAMES OF MEMBERS OF THE VERMONT STATE ECLECTIC MEDICAL SOCIETY.

CHARTER MEMBERS.

W. S. Johnson,	M. D.	Milton, Vt.		
W. D. Waller,	"	Montague, Mass.		
Norman Webster,	"	Guilford Center, Vt.		
A. G. Brush,	"	Fairfax,	"	
W. F. Templeton,	"	Glover,	"	
Albert Dodge,	"	Chelsea,	"	Dead.
Geo. K. Bagley,	"	"	"	Dead.
Geo. Dutton,	"	West Randolph,	"	Expelled.
F. Gunner,	"	Bristol,	"	
M. McClearn,	"	206 Tremont street, Boston.		
Geo. N. Bagley,	"	Chelsea,	Vt.	Dead.

J. M. Templeton,	M. D.	Montpelier,	Vt.	
G. H. Plumly,	"	"	"	Dead.
Martin Goodwin,	"	East Bethel,	"	Dead.
Jas. Templeton,	"	East Montpelier,	"	Dead.
B. F. Conant,	"	Waterbury,	"	Expelled.
John Durkee,	"	N. Tunbridge,	"	Expelled.

LATER RECEIVED.

H. E. Templeton,	M. D.		Montpelier,	Vt.
L. A. Noyes,	"		Randolph,	"
G. C. Washburn,	"		Waterbury,	"
S. W. Eastman,	"		Groton,	"
Geo. H. Gray,	"	Sec & Treas	East Calais,	"
Henry Bickford,	"		East Burke,	"
E. Knight,	"		Richmond,	"
F. H. Hascomb,	"	Honorary.	Montpelier,	"
James W. Marsh,	"		Factory Point,	"
C. E. Templeton,	"		Irasburg,	"
G. H. Harvey,	"		W. Brattleboro,	"
Charles Rich,	"		W. Albany,	"
Frank E. Leonard,	"		Cannan,	"
Eli G. Jones,	"		S. Stratford,	"
W. R. Woodward,	"		S. Londonderry,	Vt.
C. F. Harwood,	"		Dorset,	"
F. H. Godfrey,	"		Montpelier,	"
I. M. Bishop,	"		Hartland,	"
L. N. Grover,	"		Hyde Park,	"
G. E. Locke,	"		Worcester,	Mass.
L. L. Tanner,	"		Montpelier,	Vt.
Reuben L. Chase,	"		E. Wallingford,	"
William E. Bailey,	"		E. Albany,	"
Henry Ingham,	"		Westmoreland Depot,	N. H.
A. D. Ayre,	"		Bondville,	Vt.
D. Privont,	"		Waterbury,	"
R. S. Newton,	"	Honorary.	New York.	
S. E. Mortimore,	"	Honorary.	New York.	
Herbert E. Bogue,	"		W. Concord,	"
J. M. Moore,	"		W. Rupert,	"
Dr. F. E. Dwinell,			Glover,	"
H. J. Potter,	"	Pres.	Bennington,	"
Leonard Thresher,	"	Honorary.		
Fenn John Hart,	"		Wallingford,	"
Percy L. Templeton,	"		Montpelier,	"
John M. Clark,	"		North Adams,	Mass.
S. George Soules,	"		Hardwick,	Vt.

P. L. TEMPLETON, M. D.

WISCONSIN.

The State Eclectic Medical Society of Wisconsin met at Milwaukee, June 5th and 6th, at Dickenson's Hall, presided over by the President, George Covert, M. D., of Clinton, and J. E. Burkhawser, M. D.. of Milwaukee, as Vice-President. The attendance was smaller than some previous years, but what we lacked in numbers we made up in enthusiasm for harder and more thorough work for the growth and prosperity of the Eclectic system of Medicine. Essays on different medical subjects were read; the speeches made, and the annual address by the President, all combined to make it not only interesting but a valuable meeting to all present.

Our Society numbers about sixty members, small to what we should have, compared to the number of Eclectics in the State, which I think is fully 200. From time to time we have promises of large additions to our Society; but they are slow in putting their shoulders to the wheel and assisting in the good work so nobly begun in our State, and thus far the work has been left for a few to perform. Our finances are in a sound condition, and we can justly consider ourselves a healthy society for our number.

The officers for the ensuing year were the old one throughout elected by an unanimous voice of the Convention upon my motion. This is out of the usual order of things, but I considered the old officers had not performed as much labor as some other members and we concluded to keep them in the harness another year. The officers for this year are: George Covert, M. D., of Clinton, President; J. E. Burkhawser, M. D., of Milwaukee, Vice-President; F. A. Barber, M. D., of Watertown, Secretary; M. A. Barber, M. D., of Watertown, Treasurer.

We adjourned to meet in Janesville, first Tuesday of June, 1884.

S. S. JUDD.

OTHER STATES.

No reports have been received from other States in season to be included and inserted in their proper place.

National Eclectic Medical Association.

PART II.

SCIENTIFIC REPORTS, PAPERS FROM SECTIONS, ETC.

"The President, within three months from the holding of the Annual Meeting, shall designate members to prepare papers or reports to be submitted at the Annual Meeting next ensuing. *Every member of this Association* SHALL, at his earliest convenience, communicate to the Association or its Secretary all interesting cases, improvements, discoveries and suggestions, as he shall consider useful, and prepare papers and essays upon topics connected with Medical Science or Practice ; which may, whenever judged of sufficient importance, be published with the *Transactions*." CONSTITUTION, *Article VI.*

"*Resolved*, That in future sessions of this Association, all papers submitted to it shall be referred by the President to the proper Section. * * *

"*Resolved*, That the Secretary of each section shall submit to the Secretary of the Association a list of all papers in the possession of such Section, with the recommendation of the Section thereon, and shall deliver to him all such manuscripts at the close of the session."—*Resolution Adopted June 17, 1881.*

"No report or paper presented to the Association, as herein provided, shall be excluded from the printed volume of *Transactions* except for the following reasons: 1. Imperfect preparation. 2. Indecorum of language. 3. Unfriendly expression toward the Association. 4. Want of importance or of pertinency to the subjects within the province of the Association. 5. Insufficient means in the possession of the Treasurer to liquidate the expense of publication."

"All papers read or submitted to the Association are its property and shall be deposited with the Secretary *within thirty days*, or else they shall not be acknowledged, except by express vote or authorisation, in any Journal of Proceedings. But this Association is not to be regarded as approving unqualifiedly or sanctioning to their full extent the several doctrines or sentiments set forth in the papers thus presented and published by its direction."—*By-Laws, Article X.*

"*Resolved*, That the papers and Articles included in the published *Transactions* shall be restricted, except in extraordinary cases, to twenty printed octavo pages."—*Resolution Adopted June 17, 1881.*

SECTION A.

SURGERY, GENERAL AND SPECIAL.

MILTON JAY, M. D., *Chairman;* LORENZO E. RUSSELL, M. D., *Secretary.*

PROGRESS OF SURGERY.

Address by MILTON JAY, of Chicago, Illinois, Chairman.

Antiseptic Surgery is still claiming the attention of surgeons in this as well as all other countries. Indeed, as time passes, there seems to be no diminution of interest. It actually appears to be an abnormal interest which is being manifested by surgeons the world over. Probably no subject in the wide domain of surgery is calling forth more thought and scientific invesigation than this subject of antiseptics ; not only as applied to the treatment of operations and wounds, but also to the internal administration of remedies, hypodermically and otherwise, for the alleviation and radical cure of any and all toxic conditions of the system. If one-half is true that has been written upon this subject during the five years last past, one would be forced to the conclusion that all diseased or pathological conditions are septic in their nature and origin, and all that is required for a radical and perfect restoration to health is the *free* use of antiseptics. The only wonder seems to be that any one should prematurely shuffle off this mortal coil while antiseptics are so abundant and easily obtained. For when we view the gorgeous array of agents that are classed as antiseptics, by those who have been the fortunate discoverers of the same, we find the Materia Medica rather sparsely occupied with agents claiming any other name.

To Lister the glory belongs of the introduction of antiseptics into Surgery so far as carbolic acid is concerned. Improvements, however, and modifications, and combinations, and the introduction of other agents have been so numerous and complex that we now inquire not what is *the* antiseptic,

but which is the agent, or combination of agents, constituting the *best* antiseptic.

All are willing to admit the efficacy of this class of agents; some to the fullest and others to a limited or circumscribed degree. To "make haste slowly" has always been a golden rule in surgery, and might, with a good degree of propriety, be adopted in arriving at conclusions upon this subject; the fact that surgeons and physicians do not agree as to what agent or combination of agents will accomplish the most general, beneficial and satisfactory results, is evidence that this subject has not yet been reduced to any exact scientfic formula. It is still open for investigation and discussion. That fact renders it all the more interesting: the truth has already been fully demonstrated that attention to details and cleanliness, during an operation as well as in the after treatment of wounds and injuries, is of paramount importance. Upon the strict observance of these will depend much of the surgeon's success. To prevent the admission or formation of *bacteria* or *micro-organisms* in wounds, is a desirable end to be attained. To accomplish this end one will use carbolic acid, another pyroligneous acid or creosote, another Listerine. Others prefer zinc, or iodine, or collodion, or sulphur, or baptisia, salicine, salicyilc acid, salicylate of soda, or antiseptic gauze, or bismuth, which has lately been extolled as the very best antiseptic agent by the noted surgeon Kocher, of Switzerland. A host of other agents might be named. But whatever the agent employed, the object is to keep the wound clean and give nature a chance. Oftentimes Nature accomplishes wonders in this respect, without the aid of antiseptics; and not unfrequently there is failure where antiseptics have been freely used.

We might here speak of the internal use of the so-called antiseptics, for the cure of tuberculosis, scrofula, syphilis and malignant diseases, both local and constitutional, but all are familiar with the literature of the day upon this subject. Many believe with Pasteur, De Clare, and others that by the hypodermic injection of phenic acid, and by its internal administration, either or all of those conditions are curable. Nevertheless,

up to the present time the reliable records of cures do not foreshadow conclusively the ultimate triumph and success of the remedy.

SPONGE-GRAFTING.

Closely related to this subject is the new method of assisting *ulcers and wounds with loss of substance to heal.* The subject of skin-grafting has received its share of attention from the surgical world during the past ; at times seeming to make advancement, then to retrograde and fall into disuse. This subject has been revived by the introduction of what is known as SPONGE-GRAFTING. This method was first brought before the profession by Prof. D. J. Hamilton, of Edinburgh, in 1881. When a wound is made in any part of the body, if unaccompanied by loss of substance, our object is generally to procure a healing of the wound as rapidly as possible. But if there has been loss of substance, cicatrisation is not enough. It would, in general, be far better if we could accomplish the restoration of the part which has been destroyed, a re-formation of the tissue which has been lost. Sometimes, no doubt, an ulcer may heal level with the skin; but oftener it cicatrises, leaving a distinct and unsightly depression.

What this new method proposes to do, in cases where there exists a loss of substance, is to afford a scaffolding in which the new tissue can be built up. This scaffolding is supplied by a fine porous substance, like sponge. There are no special inherent properties in the sponge itself which render it essential to the process. It takes no active part in the growth of tissue. Its part is purely a passive one. It is simply the material which proves to be the most suitable for the purpose ; and up to the present time no better has been found. When a sponge is placed upon a granulating surface it soon becomes fixed there.

It is now established beyond doubt that new tissue forms in the interstices of the sponge. The manner in which it forms has been carefully studied, and the startling histological conclusions which have been arrived at by microscopical examination of the pieces of excised grafts, seem to court further

investigation. It has not yet been demonstrated whether different kinds of tissue can be reproduced in this way. Up to the present the cases in which it has been tried have shown the formation of granulation-tissue, but whether under certain conditions this tissue may not subsequently be transformed into the same material as that which surrounds the sponge, is a question. It will be interesting to know whether the material which has formed in the sponge-meshes will eventually develop into bone, cartilage, muscle and the various structures respectively. If so, the experiment is a success.

ARREST OF HEMORRHAGE.

In no department of practice is the surgeon's courage, presence of mind and skill, called forth in so positive a manner, as when suddenly required to arrest and control a frightful and dangerous hemorrhage. Many methods have been adopted as surgical, yet but few are reliable. *Torsion* or *pressure* will answer for small vessels. Styptics, such as persulphate of iron, perchloride of iron, alum and tannic acid, should not be used where the hemorrhage is from an open wound or where the vessels can be reached, as their action is only temporary, and hemorrhage is apt again to supervene. In that case the pasty clots which they have formed render the ligating of the vessels very difficult. Most of the styptics prevent union by first intention, because they irritate the raw surfaces, causing inflammation and suppuration. Ligature is the only safe method where the vessel is of any considerable size. The old plan is to cut the ligature long, so that it will reach beyond the surface of the wound or flap, and by traction remove it after the artery has healed, the ligature acting all the while as a drainage-tube and preventing the perfect union of the flaps. Some two years ago, after amputating the femur near the hip-joint, the femoral artery was securely ligated, and by mistake both ends were cut close to the knot. This was not discovered till the flaps had been closed and the ligatures counted. The flaps healed nicely and the ligature is still there. Since that time, when I have applied a ligature to a deep artery, whether in a wound or in amputating, I cut the ends

short and allow it to remain, and have never had a single bad result. Who would think, after ligating the pedicle of an ovarian tumor, of allowing the end of the ligature to hang out of the wound so it could be removed? I believe if you try this method you will like it.

DRAINAGE-TUBES.

A word concerning drainage-tubes. It may be the best treatment to use them in some cases, such as the removal of fluids from the deep cavities of the body, but certainly not from superficial cavities or wounds. My experience and observation have shown that their universal tendency is to produce fistula if they are long continued. If there is pent-up fluid it is better to give it a free outlet and to cleanse the cavity. There is about as much reason generally for the use of drainage-tubes as there is for setons. I can relate a numer of cases to substantiate this statement.

VARICOSE VEINS.

I need only mention the subject of varicose veins. The practitioner will call to mind a number of instances in the treatment of which he has been perplexed and worried, resorting to astringent applications, bandages, injections, acupressure, ligatures, etc.; and yet in the majority of cases the treatment has not been very satisfactory. We all know that it is not in many cases an easy thing to obliterate or premanently contract old chronic varicose veins. A majority of those occur upon the lower limbs, and when superficial the most satisfactory treatment I have found is to cut into the vein in a number of places—two, four or six inches apart, as the case requires. In this way you will effectually and permanently obliterate the vein, and with less danger of inflammation than by any other mode of proceeding. True, you will have some hemorrhage, but to no alarming extent. Slight pressure will generally arrest all hemorrhage.

When it comes to varicocele, or enlarged veins of the scrotum, this is the treatment, far superior to the ligature: Open the scrotum by incision; pick up or dissect up the veins

and cut them off. Wounds of the scrotum generally heal without trouble, and very kindly, particularly incised wounds.

In this connection allow me to add my testimony to many others in favor of *Thuja occidentalis* as the injection for the radical cure of hydrocele after the fluid has been drawn from the tunica vaginalis. Inject through the canula one or two drachms of the Fluid Extract of Thuja. I have used it in numerous cases during the last few years, and some of them old chronic cases, and always with the happiest results. I never have used the second injection, except in one or two cases. Sometimes there has been a good deal of swelling and soreness, but that is of short duration. This injection is superior in every respect to iodine. Hydrate of chloral has been recommended, but I have not tried it.

HEMORRHOIDS.

A large percentage of the human family suffer from this painful and annoying disease of the rectum. For a physician to be successful in the treatment of hemorrhoids is to be assured of a lucrative practice. Patients generally have a horror of the use of the knife, and do not generally have so much dread of the ligature. There are but few who will not willingly submit to the hypodermic injection of a hemorrhoidal tumor if there is a reasonable prospect of permanent relief. The injection of carbolic acid with glycerine or olive oil has become so popular, and so widely known and extensively practiced, that many itinerant specialists have gained a reputation as *pile*-doctors, who know but little about the anatomical structure of the parts, and probably less concerning the nature of the agents used. I have used the carbolic acid and sweet oil as an injection in hemorrhoids in many cases; sometimes with seemingly good effect; but more often the treatment has been a failure and I have been compelled to resort to the ligature. This is my favorite method for removing hemorrhoidal tumors. I have been more successful, and, I believe, with less danger than by injections. Occasionally one dies from the effect of the injection; while the ligature is comparatively free from danger. From the best authenticated

statistics that I have seen there is less likelihood of a return where the ligature or knife has been used. The relief afforded by injections is often only temporary.

OPERATION FOR HERNIA.

Prominent among the operations in surgery recently devised stands that introduced for the radical cure of hernia. When we are informed by statistics that about one in every eight of the human family in this country are the subjects of hernia in some form, any treatment that looks toward the permanent alleviation and radical cure of this worrisome as well as dangerous condition will be hailed with gladness by the world of surgeons. In 1836 Prof. Pancoast, of Philadelphia, resorted to an astringent injection for this purpose, but did not long continue his experiments. More recently Dr. Spanton, of England, invented an instrument for bringing together the pillars of the inguinal ring, securing adhesions by means of mechanical irritation. What is known as the Heatonian method consists of an astringent and irritant injection, hypodermically introduced into the inguinal canal. The object is by adhesive inflammation to close the canal and rings and thus prevent the contents of the abdominal cavity from escaping through this abnormal channel. The Heatonian method has the advantage over Dr. Spanton's in this way: that there is no invaginated fascia which forms the plug the entire length of the canal; the patient need not be anæsthetised; there is no external opening and the patient need not be long confined in bed. There is not much pain in the after-treatment and no great danger of injury to important structures during the operation itself. Heaton used the fluid extract of *Quercus alba.* This preparation has been later improved upon by adding other remedies. The formula which I have used and is also used by others, is the following: R. fluid extract of Quercus alba ℥vj.—distilled down to ℥iij.; alcohol, ℥ss.; sulphuric ether and tincture of Veratrum viride *aa.* ʒij.; morphine sulphate, grains. iv. A few drops, generally about ten, sometimes more, is hypodermically injected into the canal. A compress and bandage are then applied and the patient

required to keep quiet, in a recumbent position for a few days. In some chronic cases a second injection may be necessary, but generally one is sufficient. Out of twelve cases of which I have a record in only two was the second injection required. All made perfect recoveries. I would not be understood as saying that no skill or anatomical knowledge is required in making the application, but on the other hand it requires both. The needle should be of greater length than the ordinary hypodermic needle, larger and round-pointed, with the opening on the side a little from the point. From one to two weeks is the length of time the patient will generally be required to remain in bed. He will be able to dispense entirely with the use of a *truss*. Yet prudence would dictate that a truss be worn for a while afterward, as the adhesions are necessarily weak at first. The success with this method has been such as to give good reason for hope that few cases of hernia will be left outside the power of surgery to heal radically and permanently.

REPORT ON SURGICAL PROGRESS.

By L. E. Russell, M. D., Springfield, Ohio, Secretary.

We live in a fast age. Progress everywhere stares us in the face. The surgical profession was never so busily engaged as it is at the present time; never so brilliant; never so full of bold experiments; never so beneficial in its results. Our best men are actively engaged in perfecting the knowledge of a surgical nature. False theories are giving way to facts, The knife is invading tissues that were once held sacred. Mysticism and old dogmas are shattered. In fact, the whole field of surgery is undergoing thorough revision.

We live in the noon-day of this wonderful and mighty progress. Surgical pathology was never more carefully and successfully reviewed. Topographical anatomy was never better understood. In London, Vienna, Berlin, Edinburgh, and our own land there is a masterly struggle for eminence in surgical attainments.

In 1851, the great physiologist, Helmholtz, invented the ophthalmoscope, and thus enables us to investigate diseases of the eye which were before utterly obscure. This instrument enabled Grufe to begin his brilliant career; by it he worked out all the most difficult and complicated questions in ophthalmology.

Liebreich also devoted time and attention to the study and teachings of the ophthalmoscope; and the instrument also gives the precursory stages of other diseases, which, in their incipiency, are obscure and unrecognisable.

Joseph Clover, of London, years ago made a valuable contribution in surgical improvements by the invention of a double-current exhausting syringe, so useful in Lithotrity, and afterward improved by Dr. Bigelow, of Boston.

The mention of the name of Ephraim McDowell suggests the names of Thomas Keith, Spencer Wells, J. Marion Sims, Thomas Emmet, Robert Beatty, Walter Burnham and a host of mighty men. The name of Joseph Lister suggests cleanliness, and all that is neat and elegant in a surgical procedure. The name of Esmarch removes the terror of the timid surgeon and makes an otherwise hemorrhagic operation bloodless. The mention of the name of Prof. Billroth will cause the bold surgeon to convulsively clinch the knife and dare to invade the structure of almost any part of the living human body.

We find the names of great men associated with the different methods of surgical procedure, so that to mention a name is, in a word, to describe an operation.

GASTROTOMY.

Our worthy President, Prof. Howe, performed gastrotomy within the last year on a boy fifteen years of age, and with successful results. I quote the words of the worthy President:

"After administering chloroform to the remarkably calm patient, I made an incision five inches long in the course of the median line of the abdomen, leaving the umbilicus to the right. The wound was then carefully deepened till the abdominal parietes, including the lining of the peritoneum, were divided. Folds of normal-appearing intestines presented in the incised

fissure; and with a hand smeared with boroglyceride I felt for the foreign body. The fingers quickly and readily felt a firm bar, seemingly three-quarters of an inch in diameter and seven or eight inches in length. This was evidently the needle enveloped in omentum. The firmness came from exudations of lymph in the vicinity of the implement. By gentle manipulation the lower end of the indurated mass was tilted into the abdominal aperture and the needle made to appear.

"The intruder, smooth, yet blackened, was then seized and easily drawn from its embedded position. No blood nor other fluid came from the aperture, though the narrow passage led clear into the stomach. The contractility of the surrounding tissues must have closed the canal occupied by the needle.

"The borders of the incision in the abdominal walls were drawn together with four or five silver sutures, and the seam was dressed with a compress of soft cloth, which was occasionally wetted with dilute boroglyceride with thymol. No blood was allowed to enter the cavity of the abdomen, and very little disturbance of viscera was produced. The attending physician reported for the two following days a pulse and temperature of 100 each, and a gradual subsidence afterward to normal states, with a happy recovery."

I have other cases to report that are worthy of your attention, viz.:

THE REMOVAL OF THE PAROTID GLAND.

Prof. Howe's description of the operation is as follows:

"On the 2d of May, Dr. S. W. Thompson presented a patient, Mr. William Sebring, aged sixty, who had a large tumor of the right parotid gland. The lump was movable, somewhat nodular, and quite hard. It had some of the characteristics of malignancy, yet there was hope for a better state of things. The patient was a farmer who lived five miles from Allegan, Michigan. Five years previously a small nodule appeared on the parotid, yet it did not take on activity of growth till the last of February. The operation for removal was executed before the class in the amphitheater of the Eclectic Medical Institute.

"After anæsthesia was apparent, an incision was made the entire length of the tumor, and the work of loosening the mass begun. The facial nerve was seen, but no effort was made to save it intact. As the work of displacement went on, a brisk hemorrhage kept up, yet no exhausting amount of blood was lost. A ligature was thrown around the temporal vessels, and a severance of them took place above the point

of ligation. The latter stroke gave mobility to the gland and exposed the inferior maxillary artery. The vessel was seized with snap forceps, then broken and tied. With a little care the tumor was detached from everything except the external carotid and an accompanying vein. Around these a silk ligature was thrown, and a severance made above the point of ligation. The chasm from which the adenoid tumor was removed soon exhibited some bleeding. Yet an arrest was made by stuffing the cavity with surgeon's lint, and covering all with a compress and bandage.

"The patient recuperated from the anæsthetic and the shock, and passed a not uncomfortable day. In forty-eight hours after the operation the original dressing was removed and a lighter one substituted. The lint was kept wet with dilute boroglyceride which had been thymolated. The wound healed from day to day, and closed within four weeks. The ligatures were slow to come away, yet at length yielded. The face drew to the opposite side. This defect is unavoidable in the removal of the parotid gland. The inconvenience arising from the paralysis of expression is not great. A somewhat improved state of the features is to be expected, but not entire recuperation.

"Dissection of the tumor revealed signs of malignancy. The prognosis, then, is not assuring for the future. However, constitutional remedies will be vigorously pushed.

"The disengagement of the tumor from its deep and narrow bed was accomplished with less trouble than might have been expected. The enlargement of the hard body had forced the gland from its greater depth, hence the tumor moved as if it lay on the parotid. The morbid growth extended downward upon the external carotid artery. There was seemingly no danger from secondary hemorrhage. Only moderate inflammation attended the traumatism. The exhaustion was not marked."

REMARKS.

"Erichsen, in his *Science and Art of Surgery*, says: 'Excision of the parotid gland itself is occasionally spoken of, but is very rarely, if ever, done. I believe that in most, if not all, the cases in which it is stated that complete removal of this gland has been accomplished, tumors overlying and compressing it have been mistaken for it. It is evident that a diseased parotid could not be removed without the division of the external carotid artery and facial nerve.'

"In the case which I have reported, every vestige of the parotid gland was removed. There was no tumor distinct

from the gland. The facial nerve crosses the gland near its surface, yet cannot well be saved. Of course the external carotid artery is divided, for it is embedded in the gland. But if it be managed as I have directed, there is no trouble in ligating the vessel.

"Gross, in his *System of Surgery*, says: 'Considering the narrow space in which the parotid gland is situated, and the complexity of the relations which it sustains to the surrounding structures, is it possible to extirpate it in the living subject? This question, so interesting in every point of view, has been answered differently by different writers. Allan Burns thought the operation impracticable, and a simular opinion has been strenuously advocated by other authorities. That the operation is difficult of execution, requiring the most accurate knowledge of the anatomy of the parts, and the most consummate skill, is certain; and unless the surgeon is fully possessed of these important qualities, failure, if not disgrace, will be sure to attend his efforts. *It should be added, however, for the encouragement of all, that it is much easier, in almost every instance, to remove a diseased than a healthy gland of this kind.*'

"I have italicised the last few words quoted to call particular attention to what I found to be the case. The induration assists in the delivery from the frightfully deep chasm. Prof. Gross very properly cautions against the use of a knife in making the deeper dissections. A thin lever of steel, set in a strong handle, is the instrument to pry the gland from its surroundings. The lever is not sharp, yet its edges are thin. The snap forceps, made for compressing arteries, give the surgeon confidence. With these he can pinch a vessel and tie it at leisure.

"Dr. Gross recommends that the dissection be commenced below the gland, for the purpose of securing the external carotid, and finished by going upward. In cases coming under my observation the tumors have extended down the neck an inch or two; therefore it would have been difficult to reach the artery, and secure it. In my opinion it is easier and safer to begin above and end by ligating the artery and severing it—an act which finishes the operation.

"In the dressing of the wound no attempt should be made to close the chasm by drawing together the edges of the incised integument. A large aperture is needed to introduce and remove pledgets of lint. The cavity is gradually filled by granulation."

ASPIRATION OF THE STOMACH.

A novel procedure was performed by myself recently. It consisted in the aspiration of the stomach. A worthy man had, with suicidal intent, swallowed a large quantity of laudanum. He was brought to my office in a profound stupor, stertorous breathing, purplish face, and in the advanced stages of the poisoning.

Flagellation had no effect, and there seemed no way of arresting the fatal results. Spasms of the muscles were so great that I could not open the mouth to use the stomach-tube. I therefore entered a Jaques catheter into one of the nostrils and pushed it downward into the œsophagus, and through this I injected a large quantity of water and liquid emetics. The walls of the stomach were so completely paralysed that emetics had no effect. The stomach was now enormously distended with water and fluid, and every avenue of escape sealed. I therefore conceived the idea of aspirating the stomach. I thrust the large aspirating needle into the pit of the stomach and removed the liquid which was heavily charged with laudanum. I then injected water through the needle, and removed the same, till I was positive that no poison remained ; after which I injected into the stomach a good quantity of whiskey, and used subcutaneous injections into the arms and body. Flagellation was resumed and other means at resuscitation followed. The patient made a perfect recovery.

SPASMODIC TORTICOLLIS.

A middle-aged business man consulted me some months since in regard to an affliction which he attributed to a fall. The sterno-cleido-mastoideus muscle was contracted, having the effect of turning the head, drawing the occiput slightly downward and the chin upward. Other muscles, such as the scaleni, splenius and trapezius, were also affected, and the inconvenience, pain and discomfort inflicted by this lesion became very troublesome.

The operation of tenotomy had been performed by two eminent surgeons at different times, but with no beneficial results. I thrust a threaded needle deeply into the tissues of

the neck and ligated the muscles, by piece-meal, until all the muscles of the afflicted side of the neck had been severed. The results of the operation was successful.

SILICATE OF SODA.

Silicate of soda is made by fusing one part of silica (fine sand or powdered flint), and two of dried carbonate of sodium, mixed in powder in an earthenware crucible and pouring out the fused mass on a stone or marble slab to cool. This is pulverised and treated with boiling water to disolve the soluble parts. This solution is filtered and concentrated so as to form crystals on cooling. These are then purified by dissolving in water at 100° Fahrenheit, filtering the solution so that it may re-crystallise on cooling.

The commercial solution of silicate of sodium contains 20 per cent. of silica and 10 per cent. of soda, and is also known to the trade under the German name, "water-glass."

The commercial silicate is of a syrupy consistency, and is an inexpensive article. It is one of the best; in fact, I will say it is the best surgical preparation extant. If you will purchase for yourself a small can of this liquid glass and experiment on its use and value in surgical cases, when a splint, starch or plaster-of-Paris dressing is required, I am satisfied you would not attempt to practice surgery without it. It is always ready for immediate use, and is applied to the bandage with an ordinary painter's brush, which is left immersed in the can containing the solution. If you desire the speedy sealing action all that is required is to warm the solution, by placing the can in a dish of hot water and apply warm. The heat thus imparted to the solution causes immediate evaporation of the water and almost an instant sealing of the applied liquid to the bandages. You therefore have in this agent all the advantages of any other, and none of the objectionable features of the starch or plaster-of-Paris dressing.

When called to attend any surgical injury I always take the can of silicate of soda, a few bandages, tar board or tin strips, and I am prepared to make or adjust a splint perfect in adaptation to any part of the body. There is no waiting for the

making of starchy material; no fooling with plaster-of-Paris, and the nasty muss on furniture, clothing and things in common, and yourself in particular.

From the dressing of a fractured finger to that of the leg, or inferior maxillary bone, or as a jacket for spinal curvature, this dressing has no equal. If you find a weakened part in your dressing you can touch it with the liquid at any time and apply and re-apply stiffening material until you have perfected your appliance. If you wish to invade the parts covered by the dressing you can do so in a moment, by placing a sponge, moistened in hot water, examine, and re-apply fresh material, and your dressing remains perfect. An incision made in the dressing will allow of its being removed and replaced at will. In cases of extensive burns I immediately apply the solution with the brush, and the pain disappears as if by magic.

THOUGHTS ON SURGICAL PRACTICE.

By Charles Band, M. D.

The aim of an enterprising medical student when he begins studying, or rather, perhaps, when he enters the medical college, is proficiency in the knowledge of Surgery. In the case of medical institutions, superior teachers and instruction in the Practice of Medicine, Materia Medica, and Pharmaceutic Science are very often regarded as secondary considerations. A thorough knowledge of Surgery is esteemed the absolute necessity, to which all else must give way.

This view of the matter is probably derived, as we too generally in this country derive our ideas of science and fashions, from the other Continent. If we scrutinise the improvements made or suggested by European periodicals, we find that medical treatment is held at a relative lower value and surgical manipulations are placed in the foreground. Emphatically is this the case in France. Therapeutics seem to be regarded as savoring strongly of empiricism and uncertainty, and therefore to be in a great degree surrendered to the more definite

action of the *vis medicatrix naturæ;* while every novel operation of a surgeon of distinction is proclaimed as a brilliant achievement. It is said that a distinguished French surgeon once asked Sir Astley Cooper how often he had performed a a certain difficult operation. "Only five or six," replied the Englishman. "I have performed it over a hundred and fifty times," said the Frenchman. "And how about the patients?" Cooper enquired. "Ah!" was the reply, "they all died; but the operation was very magnificent."

It may be remarked, in passing, that if a rigid enquiry be made in regard to the patients subjected to surgical operations in the Hospital Cliniques of our large cities, it is more than probable that a rate of mortality would be disclosed not so much less than the above as may be imagined. There is a great deal of human vivisection done in many of these institutions for which there is no benefit derived by the patients. The operations are performed to illustrate some surgical question, and the patients are wheeled out of the room to die. It is a plain matter of morals that such performances are criminal.

This superior popularity of surgical over ordinary medical study is of comparatively modern growth. It is not so very long since surgery was regarded as constituting no part of the healing art. The barber used to practice it as a part of his trade, and the peculiar bands painted on his pole have been indicated as his surgical sign. Indeed, at the present day, the English surgeon is not a physician. Sir Astley Cooper was plain Mister till royal power made him a baronet. The same thing is true of Paget and others. If we are to include the whole category of diseases heretofore called surgical in the department of therapeutic practice, this exception is very proper. A man whose art and skill are in the direction of manipulation and dexterous section, is rather a mechanic than a scientist, and he has little right to the classification and distinction of a physician. I am very sure that our accomplished President, whose eminence as an operator as well as his professional and scholastic attainments is every where acknowledged in our ranks, will agree with this judgment.

We are not, however, in this country at least, doing business in this way. Every medical college and department has its Profession of Surgery, and no student in medicine is regarded as justly entitled to a degree who has not made reasonable proficiency in that branch of study. It is the right view of the case. In order to be a skillful surgeon the individual must of necessity understand human anatomy thoroughly and be proficient in physiological science. The same conditions are indispensable for the physician. The diseases which have borne the designation of surgical are not so distinct from other maladies as to exonerate the practitioner from the need of a complete medical education. Indeed, it is not possible to declare intelligently the limit where the surgical department ends and the physician's function begins. They overlap so completely, or rather are incorporated together so intimately, that a proper knowledge of the one implies proficiency in the other. The surgeon must be a scholar in remedial science whether the physician be a surgeon or not. It is this conviction, together with the exigencies of a newer country, that has led to the blending of the two callings into one, to continue such till some caprice in regard to specialties shall put them asunder.

Medical practitioners who make no pretense to surgical skill have no right to complain. It is their proper function to enlarge their sphere of knowledge and activity by the improvement of their methods and the discovery of better ones, by means analogous to those of the surgeon. If the skepticism which exists among medical men in regard to the actual benefit of drugs, which has given to surgery a certain factitious superiority, is to be removed, this is the way to do it. There has been too great a tendency to narrowness, from which springs much of the intolerance and bigotry of which we justly complain. There is also too general a disposition to ignore botanical knowledge and to be superficial in chemistry and physiology. An empirical acquaintance with drugs and their operation in certain forms of disease has been too often allowed to constitute the principal attainments of a physician. Alongside with this narrow range of knowledge there

has been almost sedulously disseminated the notion that if a medical man possessed a broad intelligence beyond the limits of his profession he knew little practically in it. It is a mischievous notion, and one which must be "stamped out" in our ranks, or else we must consent to take our place at the bottom in the professional scale. In these days those who would stand high socially can hope to do it only in virtue of their culture and intelligence. It is complained that the Codes of Medical Ethics, like other Trade-Union devices, tend to create privileged orders, whose members obtain social and even civil and political advantages, superior to those enjoyed by better and even more skillful and scholarly men who happen to stand outside the pale. There is a degree of justice in this. There has not been proper vigilance exercised to prevent it. When men prosper and have abundant means of enjoyment they often neglect giving attention to matters of principle, and find themselves hampered and their liberties encroached upon when they suspected no danger. Much of the obnoxious legislation which we protest against, as well as the disqualifications under which we live, is chargeable to such neglect. Men sleep and the enemy sows tares.

The physician who is an adept in surgical knowledge is far more likely to exceed the narrow professional limitations. He is obliged to know what the routine doctor is often too prone to neglect. He must delve into the intricacies of anatomical knowledge and the various departments of physiology, which the other so frequently considers himself exonerated from learning. He is not permitted to content himself with being able to pass a college examination, and a diploma hardly serves the purpose of giving him a start in his vocation. He has much more to learn than that usually signifies. The man who is really intelligent in these departments is generally superior in other information, and accordingly takes rank socially and professionally by virtue of superior attainment. If the great majority of practitioners represented by this National Association come up to this rank, or should reasonably approximate toward it, they would soon be so powerful a

factor in society that every endeavor to proscribe and degrade them would be paralysed in its inception.

The present condition of our modern civilisation has given to the surgeon his eminence above his professional brethren. The exigencies of commerce have made railroads indispensable; and manufacturing has necessiated the fabrication and employment of machinery. The art of war has shared in the general innovation. We have as a necessary result incurred infinitely-increased peril to life and limb. The common practitioner of medicine is none the less important, but the surgeon has become more necessary. The casualties of battle, the disasters incident to railway and manufacturing operations, and the various accidents and mishaps in other callings, have produced an imperative necessity for surgical skill, perhaps never before known.

Our false modes of living must also be taken into the account. A host of local disorders are produced from our fashions of dress. Women are suffering from maternity to a degree without a precedent in history. Lacerations and fistula are not unfrequent. The new science of gynæcology depends on surgery as its right hand and medical hygiene as the auxiliary. Cancers and tumors require a skill and attention which cannot be too efficient. They appear to be largely on the increase; so that treatment and operations, that were formerly unheard of are now quite common occurrences. Doubtless if observations are made upon the other sex as sad a record will be obtained.

With the great multitude and variety of accidents and other mechanical troubles, it has become necessary that in every place of considerable size there shall be a skilled surgeon accessible. It would be an interesting study to determine how this or that practitioner gained a reputation in that way. The envious will say that it was by "cheek." It is certain that many individuals do put on airs that are decidedly quackish and charlatanic. I can hardly believe that, however, of the real surgeon. It may be that he has no better educational qualifications than his brother physicians; but he is very certain to have tact, assurance, confidence in his own

ability and earnestness to do well what he undertakes. These qualities inspire confidence in those who have occasion for such service; and this mutual interchange of confidence promotes success. If envious rivals attempt to impugn him they are more liable to do themselves harm and fix attention on him more generally. The abused and slandered man is very often the best in the community. Our surgeon is likely to become more careful, more exact in his knowledge, and thus more apparently reckless but more surely certain, and in the end he is the king.

In our School of Practice, however, there is not so good an opportunity for the surgeon. We have the material, I doubt not; a Howe, a Gunn, a Younkin and others whom I might name, prove that conclusively enough. But there are difficulties hard to surmount. When a doctor acquires a superior reputation as an operator, his practice as a physician is very liable to diminish in consequence. Most of his patients will be too poor to afford him a just pecuniary acknowledgment for his services. The poor are not only in the majority, but they have by far the greater ratio of casualities, broken limbs and maimings. Nor is that the only feature of trouble. If from any cause the injured part is not made as good as before, the patient is as likely to prosecute the surgeon for malpractice as to do any honorable thing. In the Old School a doctor can easily find professional brethren to swear him clear, right or wrong; but the Eclectic is seldom thus favored. There is often a conspiracy against him, against which only incontrovertible success can assure him.

Several years ago one of our ablest young practitioners in an Eastern State, and a member of the National Association, treated a case of fracture skillfully and with great faithfulness. He had a superior degree of ability. For his pains he was treated to a suit for malpractice. The pressure brought to bear against him was overwhelming; only a righteous cause and clear testimony carried him through. He was triumphantly acquitted, but the expenditures for defense crippled his finances. He gave up the practice of his profession and engaged in another business to recover the competency which a

malicious lawsuit had rifled from him. This tale has its moral; and it is one which reflects no credit on the dominant faction in medicine. It is of value, too, as a caution to others of our number who aspire to distinction in the practice of operative surgery. Yet to all who are thus ambitious I extend my heartiest sympathy.

There is an error, however, that surgeons are somewhat too liable to fall into. There are numerous cases that can be remedied by treatment, which a surgeon sees a short way to with his bistoury. It is a nice thing to be quick over with a difficulty, and he is more than others liable to the temptation. Yet it is a temptation which he ought to resist if he would indeed be delivered from evil. The motto of the National Association, *Vires vitales sustinete*, should be conscientiously heeded. The living tissues of the body recoil from incisions as an unnatural violence. Sensitive individuals do not for a considerable period of time recover from the shock inflicted by cutting. This, in many instances, more than counterbalances any benefit derived from the more expeditious, and, perhaps I should add, nicer, method of the surgeon. There is good reason to believe that practitioners who make no pretension to surgical skill are often more successful in their treatment of the sick. They depend on their remedial means which they employ, while the surgeon is a little too apt to become utterly unbelieving in regard to the utility of medicines and regimen. This would be very likely to limit their benefits in his hands.

Our laurels have been won in clinical medicine. Ours are the methods and medicines that effect cures. It is natural, perhaps political, that the majority of our young men shall engage in that branch of labor that better and more certainly rewards them than to venture into the field where there are more perils to encounter, more enemies to contend against, and less emolument for honest effort.

In saying this, I would not discourage any body's ambition. Let every one work out what is in him. It is his only sure way to live aright. I cannot praise too highly the Yankee boy who studied Greek while tending a saw-mill and afterward honorably wrought his way through Harvard University.

I am proud of him as our leading surgeon and teacher of Surgery; and I earnestly desire to have many more following his example. What he has done other young men can do; and it is easier for them because he has done it. Besides, there is far less extenuation or excuse for any such to follow the example of another distinguished surgeon of our school and abandon the Eclectic ranks because there were not physicians who would act honorably in the treating of the patients on whom he had operated. Our colleges have done much and are doing more to obviate such a condition of things. While there may be more certainty of patronage and emolument in the field of clinical practice, the opportunities for distinction as a surgeon are becoming better.

All who thus distinguish themselves will render an invaluable service to their profession and their fellows. They make it more necessary to be thorough in their study. The average practitioner is somewhat too apt to prize the diploma of a medical college more than medical knowledge. The surgeon can not get on with any omission. He must be thorough in his scholarship; and his proficiency is certain to reflect credit and honor on those with whom he may be identified. The few always cast their light over the many.

Perhaps it is well to call attention to another matter. We are without reputation or acknowledgment in the military or naval service of the country. We cannot regard ourselves as honored citizens of this Republic, with such a stigma or disqualification. It is a brand of dishonor. We owe it to our cause, to Science, to justice itself, to procure its removal. The first step to secure such an end is to make sure of our own deserving. It would come with an ill grace for us to ask appointments as army surgeons or naval surgeons, when we were not really surgeons at all. Let us therefore make sure that we are right in this essential. We can then afford to wait. It would be for the Government itself to seek justification if its Executive officers should refuse the services of an honorable and competent man, solely because he chanced to be proscribed for no moral or proper reason by a partisan medical association. Such a man as a standing witness of public injus-

tice would do more to break down the partition-wall now shutting us out, than if he held the highest medical appointment in the hands of the Government.

It seems clear to me therefore that the field occupied by this Section is most important to the professional standing and future existence of our School of Practice. Let us occupy it with enthusiasm and determination. The departments of Practice and Materia Medica are ours already, to hold and make good. Let them not be wrested from us. But let us not stop to boast over any old victories. They are only steps toward the achieving of new ones, or else they are little better than defeats. The glory of the Eclectic cause consists in its advancing, rather than in Fourth-of-July orations about what we and our fathers have done. What has been accomplished will perish and come to nothing, when we stop and stand still or venture to compromise with what has been left behind.

I hope that the reports and papers of this year will occupy broader and higher ground than ever before. There are many disorders which surgical appliances ought to remedy, which still remain our opprobrium. Any advance toward their improvement or successful eradication is an achievement that should enroll the discoverer's name among the heroes of the century. We read of a masterly operation by which Ex-Governor Chamberlain, of Maine, has been made a sound man comparatively, when death from uræmic poisoning seemed inevitable. I would honor the man who performed it. Yet it is hardly time to be reckless, certainly not to be rash. I have read of an excision of a lobe of the lungs to get rid of a phthisical affection, and that it did not succeed. Except the patient desired it to be done, and speedy death was otherwise inevitable, I do not see how it could be justified. Yet, if dissolution from disintegration was so near, there could be no hope from operating. Amputations for cancer are still sufficiently precarious; not to include those made to remove goitre. Only success can assure the palm to the surgeon in either of these. The same feeling was entertained in respect to ovariotomy, and some of our Eastern friends remember when the late Dr. Walter Burnham was denounced in a Physo-

pathic Medical College for ripping women's bellies open. But in his case success vindicated the work; and the principal resource left for crushing him was found in the Code of Ethics of the American Medical Association. Old-School physicians would not attend patients on whom he had operated, because he was an Eclectic. Better, according to that Code, to let women die than receive benefit by one who bore not the label of regular.

The excision of internal organs of the body involves responsibility which a surgeon may hesitate to assume, where adversaries are on the alert to make him trouble. It is for the privileged school to remove a diseased lobe of the lungs, the patient dying after it; or a segment of the liver as being a diseased kidney as was done in the New York Hospital. Such practice, which was hushed up, because by self-named regulars, would be the ruin of a member of this Association. Yet even in these matters, there is much that may be done, well and safely, which will reflect infinite credit on the skilful and expert operator; and we may confidently direct effort in this direction.

In the way of Orthopædic Surgery there is much that can be explored with profit. If we could effect something in the way of prevention, it would be better. The crooked limbs, deformed spines, and other malformations, constitute a distinct feature in practice, which has not received sufficient attention.

Much as has been said and written about Cancer, there has not enough been learned or accomplished to entitle it to be set down as actual scientific knowledge. There is far more hope for the physician to arrest a malignant growth than for the surgeon to remove it with success. The same may be said of other affections which come within the surgeon's province, but I will not now attempt to enumerate them. Enough has been written to point out the broad field that opens before us; and I am sanguine enough to believe that the young surgeons whom we are educating, not to leave out the accomplished teachers in our colleges, and the President of this

Association whose achievements are already our boast and his attainments our pride, will yet accomplish there what will make their own names illustrious, and our School of Practice recognised and honored everywhere.

FRACTURES.

IMPROVED APPARATUS AND METHODS IN THEIR TREATMENT.

By E. Younkin, M. D.

Every physician with a reasonable share of practice, will meet with fractures, whose results, to a greater or lesser degree, will affect the function of the joints. Fractures of the humerus, of the condyles, at the base of the condyles, either with or without splitting into the joint, are specially frequent, and the consequences, generally, are: great inflammation, permanent deformity and bony ancholysis. The opposite result in such cases is usually regarded as a fortunate exception to the rule. From the frequent occurrence of such accidents, and from the embarassments experienced in the use of the different appliances in vogue, in overcoming those results, I have been led to attempt the use of certain devices, whereby I am enabled more readily to execute that which is acknowledged to be the more rational methods of treatment.

In 1876, I was called to see Mary Niel, a girl aged twelve years, who had fallen upon the sidewalk, striking the right elbow. I saw her a few minutes after the accident, but the parts about the joint were considerably swollen. The forearm was slightly flexed and proned. Upon seizing the forearm firmly with one hand and grasping the condyles of the humerus with the other, and moving, I discovered motion above the condyles, and crepitus. I could likewise feel the point of the upper fragment. There was lateral widening of the condyles, and upon extension I could press them together, when it became apparent that they were separated by a splitting between them into the joint. On removing the pressure and

extension the condyles again separated and the olecranon drew up between them. I set forth to the patient and friends, as I always do in like cases, the liability of a stiff elbow-joint; and promised to do the best I could, if my services were desired. I set the arm in Day's rectangle splint and went home. At my leisure musings I raised in my mind the essential principles in the treatment of my patient's arm. These occurred to me about as follows:

1. The proper adjustment of the fragments. 2. The arm and elbow-joint must be immobilised. 3. The imflammation must be guarded. 4. The anchylosis should be prevented. I thought of the gratification which would be experienced if these ends should all be obtained.

Upon examining the literature of such cases I came to this expression of Hamilton: "In no case, ought more than seven or fourteen days to elapse before all bandaging and splinting should be abandoned, and careful, but frequent flexion and extension be substituted."

The object that Hamilton has before him in this suggestion is, doubtless, the restoration of the function of the joint. Every one can see, however, that if the bandages and splints are abandoned at the end of seven or fourteen days, it will be at the risk of deformity and misplacement of the fragments. Why not retain and support the fragments, and at the same time employ passive motion? It would seem to me that this would be the most rational course. The splints formerly in use were not capable of accomplishing this end, and hence Hamilton chose to abandon them altogether at this juncture, and take the chances of permanent deformity. Here was a difficulty that I had often met and I determined to rectify the evil.

ARTIFICIAL HINGE-JOINT FOR BROKEN ARMS.

With my "jack-knife" and pine stick I carved my idea into shape and hastened to my instrument-maker and had it made of metal (Fig. 1). It is a hinge-joint that turns by a key to any angle. Any degree of power can be used, and it is reversible, so that it may be used either anteriorly (C) or posteriorly (D). To this hinge I fitted two pieces of thin board and applied it to the posterior portion of the arm of my

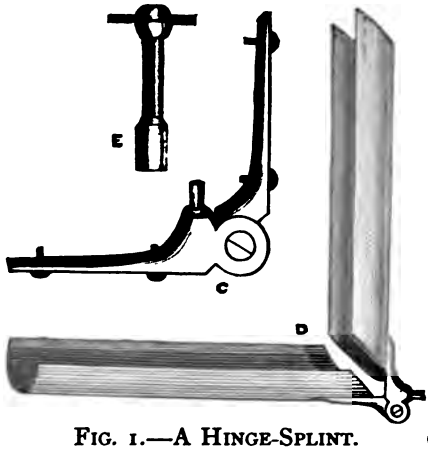


FIG. 1.—A HINGE-SPLINT.

patient. After seven days, when the period of inflammation had passed, I turned my hinge backward and forward every day; and to my great satisfaction the arm grew as supple and useful as before. This joint is made to be adjusted to any ordinary material that is sufficiently strong for a splint. The splint itself is cut from anything at the surgeon's command, and the joint applied. So highly pleased was I with my first instrument that I immediately ordered another. Before I obtained it from the shop, Charles Jay, a boy aged fifteen years, fell upon his knee and broke the internal condyle of the femur. I obtained my hinge and, fastening it to a couple of boards, I turned the hinge to nearly a straight splint, and applied it to the posterior part of the leg. In ten days I began the use of passive motion by turning my splint into a double inclined-plane and then back to a straight position, thus supporting the fragments and at the same time moving the joint.

In fractures of the condyles of the knee, Hamilton says: "As soon as union is consummated, the joint-surface should be submitted to passive motion, in order to prevent anchylosis; and it would be better to commence this so early as to hazard somewhat a displacement of the fragments than to wait too long. It may not in some cases be improper as early as the fourteenth day, and in nearly all cases it should be practiced as early as the twenty-eighth."

The reader will see that my treatment suggests a much earlier movement of the limb; and by retaining the support, having the fragments well secured, the hazard of displacement is avoided. In my second case I had the satisfaction of seeing my patient walk without a limp.

From that year to the present (seven years) I have had

numerous cases of like character, and with this plan of treatment I have had the most gratifying results. I have just now dismissed a patient who six weeks ago fell from a high board-fence, breaking the external condyle of the humerus, and thrusting the internal condyle through the skin upon the inside of the arm. A physician was sent for, who decided upon amputation. Two hours and a half after the accident, and before the physician could get his associate operator, I saw the patient and proposed to try and save the arm. I reduced the dislocation and put on my angular splint. The arm was treated antiseptically with boracic acid. Not a sign of inflammation occurred, and the motion of the arm is almost perfect. Do such results follow the use of the fixed rectangle splint, or can we hope to prevent deformity by the too early abandonment of splints and bandaging?

LATERAL HINGE-JOINT.

One more point, however, was to be obtained. I desired in certain cases to have a hinge in which motion could be made in the joint by the will of the patient, while at the same time the bones of the arm were fixed. For this purpose the above hinge could not be used.

Fig. 2 represents a lateral hinge that may be used with free motion at the joint. The thumb-bolt, A, may be turned to tighten or loosen; it may be fastened at any angle desired. At B the hinge is applied to splints made of shingles or book-binders' board. This splint, it will be seen, may be applied either inside or on the outer side of the arm, so that with the two hinges, Fig. 1 and Fig. 2, the surgeon is supplied with all the necessary apparatus for the treatment of fractures of the arm.

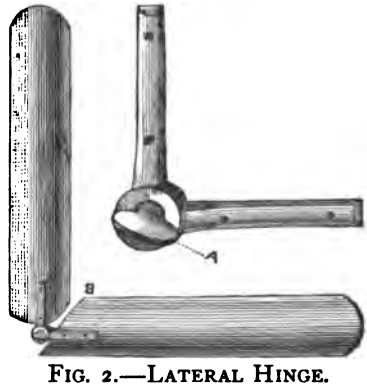


FIG. 2.—LATERAL HINGE.

With Fig. 1 a pistol-shaped splint can be made also to fit over the shoulder, and Fig. 2 is applicable at the wrist, where such apparel is required.

In August, 1882, the author's own arm was broken near the elbow. The lateral hinge was applied, which gave me freedom of motion; and during its application I was permitted, by the liberty it gave me of the elbow-joint, to set for other patients—two fractures of the tibia, one of the femur, one of the ulna and radius, and one of the humerus.

FRACTURES OF THE LEG.

This is all that I had hoped to do with my apparatus, but as matters went on I perceived no reason why I should not seek to perfect a plan for the treatment of fractures of the leg.

The methods usually adopted by our country surgeons have some serious objections. In attempting to confine the bones of the legs, the body itself is kept so much in one position that the patient is oftentimes worn out by the close confinement. In old people suffering with fractures, especially about the neck of the femur, the decubiture is long and devitalising. Surgeons have acted like the Yankee, who had placed the yoke upon his oxen in front of the horns. Upon enquiry into his reason for this strange method, he replied that he "proposed to get labor from the whole ox and not from half, as you fellows do down in the States."

A little change of position in the body, and in the limb of a patient suffering with fracture, affords a wonderful amount of comfort. If, therefore, this can be done without hazard to the fractured part, it is the duty of the surgeon to afford it. Some surgeons prefer one position of the limb, where others prefer another. Some desire to set upon a straight splint, others upon an inclined or double-inclined plane.

In fractures about the neck of the femur, I believe the straight position, or at most a slightly-inclined plane, is the best, and is the one usually recognised. Fractures just below the minor trochanter should first be set in the double-inclined plane, owing to the lower end of the upper fragment being drawn up by the contraction of the iliacus and psoas muscles. Fractures near the middle of the shaft of the femur may have a lesser degree of double inclination. As the base of the condyles is approached the greater double inclination is again

required, as the gastrocnemius muscle draws the upper extremity of the lower fragment downward. The condyles themselves being broken, requires the straight position.

If the flexion does not overcome the overlapping of the bone, and means of extension become necessary at the foot, then either the inclined or straight should be employed.

I believe with Dr. Pope, whose language is: "In the treatment of fractures of the femur I employ neither the straight nor the flexed position exclusively, but the one or the other, according to the sight of fracture."

Dr. Pancoast suggests the use of the flexed position at first, in fractures near the ends of the femur, then, after the lapse of a few days, when the disturbed muscles lose their tendency to spasm, and the provisional callus about the fracture forms a bond between the ends of the broken bone, to gently bring the limb down to a straight position. This change of position affords rest and comfort to the patient, but with the ordinary methods of treatment the surgeon will seldom put himself to the trouble in devising the necessary splints; besides, he would be forced to an unnecessary handling of the limb.

Unnecessary punishment of a patient in the confinement to one position, deformity, and anchylosis, when they can be avoided by the surgeon, deserves consideration, and the want of the proper apparatus is often due more to the indifference of the surgeon than anything else.

THE ADJUSTABLE HINGE.

The splint which I have devised for the leg is represented in Fig. 3, and is free from the serious objections above-mentioned.

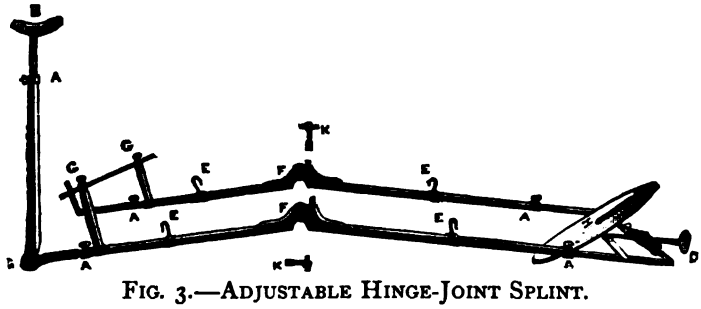


FIG. 3.—ADJUSTABLE HINGE-JOINT SPLINT.

The same hinges used in Figs. 1 and 2 are now applied upon the leg bars. Two of Fig. 1 are applied to the knee; one of Fig. 2 is used at the hip, to give freedom of motion, and one of Fig. 2 at the foot-board.

The axillary bar, B, may be changed to the other side to suit the other leg, or if desired it can be left off at the hip. A, A, A, A, are thumb-screws to adjust the instrument to the length of the leg. G, G, is a rod setting in posts to widen the bars; there are also means to widen or narrow at the foot. O is the extension-screw made fast to the foot-board, H. E, E, E, E, are the hooks by which the limb is suspended.

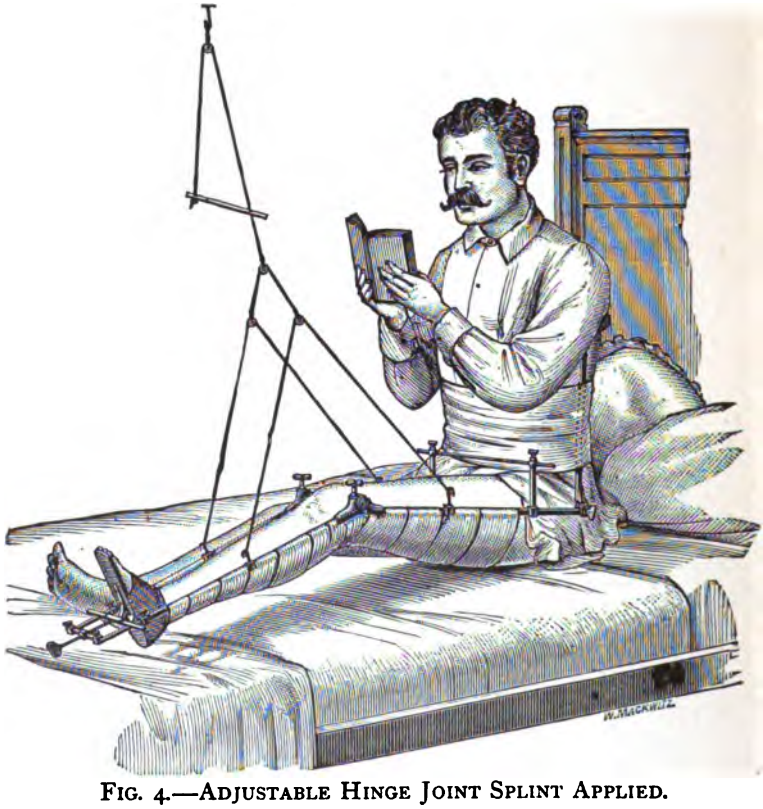


FIG. 4.—ADJUSTABLE HINGE JOINT SPLINT APPLIED.

In Fig. 4, the splint is adjusted to the leg. The foot-board is applied to the foot as a shoe, or it may be fastened with a

roller-bandage; the bars are placed in position, and strips of muslin, four to eight inches wide, are pinned to the bars. A little plaster of Paris will stiffen these bands and keep them from corrugating. These constitute the floor upon which the leg rests while in the suspended position. The strips can be changed one by one without disturbing the fracture. The bandage around the body holds the axillary bar and steadies the apparatus. The hooks are pushed upon the bars to the desired place in order to balance the leg. The patient is allowed to sit up or lie down at pleasure. He can be fastened down, or in the sitting posture if desired. The splint is suspended to the ceiling, or to a frame over the bed; the pulleys seen in the ropes allow a movement in any way the body turns. The instrument can be changed on any of the planes without removal of the dressings. There is nothing to interfere with with the circulation, and no roller-bandages are required. It matters not where the bones are fractured, the apparatus is peculiarly applicable.

Having used this apparatus for a number of years, I most cheerfully recommend it to the profession, not because I am the author of it, "for the pride of genius I courteth not."

FRACTURE OF THE CLAVICLE.

The appliances for the treatment of fractures of the clavicle are numerous. The number has grown out of the difficulty in obtaining the objects desired. Many of them are defective, and some are absolutely worse than useless. The figure-of-eight bandage ought never to be applied; Velpeau's dextrine bandage is impracticable; Hunton's yoke-splint and Welch's apparatus are too expensive; Bartlett's, Fox's, and Hamilton's, admit a degree of relaxation of bandages, just enough to allow the broken bone to overlap and the shoulder to sink.

Any apparatus that will hold the shoulder upward, outward and backward will accomplish the desired ends. I ask a trial of the following plan: Cut two adhesive straps (rubber adhesive is the best) about two inches in width and two and a half or three feet in length; make a ring to fit around the arm of the injured side, close up to the axilla, not over the

shoulder, but as seen at A. This ring may be made of muslin rolled up, with a little cotton enclosed, and this, by a roller wrapped around and sewed. The body of the ring should be about an inch thick, and soft enough to admit the circulation of the blood to the arm. This now slipped over the arm to the axilla, and the adhesive strap B is made to catch the ring A by slipping the end of the strap between the arm and the ring and then lapping it upon itself. The arm is now drawn backward, and while held in that position the adhesive strap B is drawn over the opposite shoulder and made fast to the skin. The next step will be to make a loop D by tying the

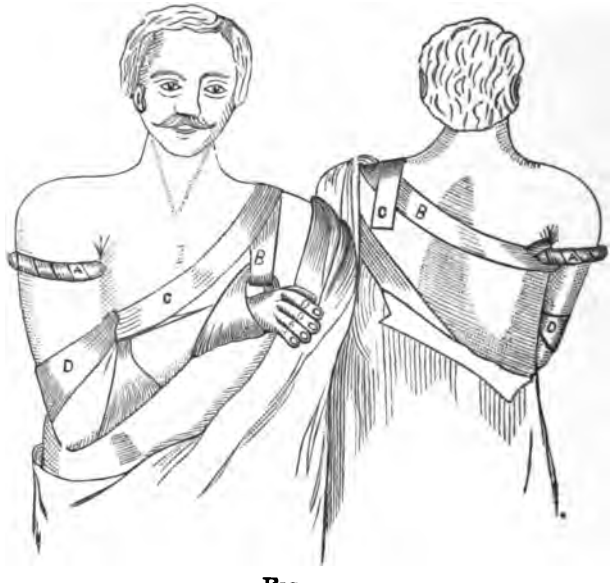


FIG. 5.

corners of a handkerchief together, or a piece of roller, and slipping it over the elbow. The other adhesive strap C is now made to catch this, the arm is drawn forward and upward while the strap is taken over the shoulder in front and secured to the skin. The hand may now be secured or held up by a handkerchief, which may be held by the end of the strap B. By the use of the adhesive straps you throw the shoulder upward, outward, and backward, and then hold it as long as you

desire just where you put it. The ring A acts as an axillary fulcrum, but ought not to be too large. Having used so many of the different kinds of apparatus, I can say that none gives me the satisfaction of this one. The straps join the bone where you want it, and keep it just where you put it, until you desire to let it loose.

FRACTURE OF THE PATELLA.

From the great variety of appliances devised to secure accretion in fractures of the patella, we are impressed with the fact that many difficulties lie in the way of treatment. Much ingenuity has been displayed in the appliances of Lonsdale, Hamilton, Sanborn, Eve and others, but the surgeon finds them either too expensive, not available, or not efficient in holding the fragments together. The country surgeon, especially, will at the time of such accident have none of these on hand to meet such emergencies, and he is not disposed to send far away for a costly arrangement for an individual case.

James Cochran, aged twenty-eight, fell June 25th, 1874, striking his knee upon a curb-stone, producing a transverse fracture of the patella. After some deliberation I constructed the apparatus I now describe, and for its cheapness, ready application and effectual working it must recommend itself to all.

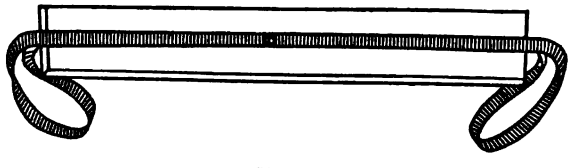


FIG. 6.

A board is cut long enough to reach from the middle of the femur to the middle of the lower leg. It should be a little broader than the leg, that the bandages may not compress the superficial veins. An elastic band is now cut, so that when doubled and its ends are fastened together its length will be the length of the splint, plus the length of the projecting loop, as seen in Fig. 6. This band may be made of the rub-

ber roller-bandage of Martin's or Bulkley's, or in the absence of any of these, an elastic suspender will do. The band is laid lengthwise upon the splint and tacked in the centre.

A padding of cotton is adapted to fill the irregularities between the splint and leg, care being taken to fill the space under the knee.

The splint is now applied with the rubber-band between the board and leg. The loops are caught and brought around the ends of the splint, and while the body is flexed upon the thigh and the fragments are pushed together by an assistant, a muslin roller-bandage is thrust through the loops (the upper one first), the loops held upon a stretch, the fragments are secured by several turns of the roller, as in Fig. 7.

The bands are drawn sufficiently tense during the adjustment to stretch the loops, in order to compensate for the

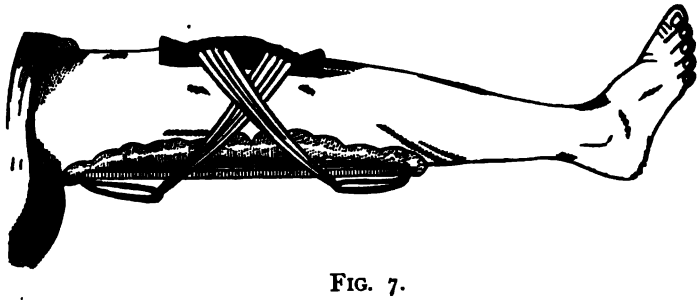


FIG. 7.

relaxation of the muslin roller and to keep the fragments from separating. Upon the amount of tension rests the judgment of the surgeon. A compress of folded cotton may be placed beneath the bandages at the top of the knee to prevent friction and undue pressure upon the skin. The leg may now be bolstered up to form an incline plane.

My patient, James Cochran, upon whom I first applied this apparatus, made a good recovery, with no evidences of a ligamentous union. If we obtain an osseous union in any case of fracture of the patella, it will be by the firm juxtaposition of the fragments.

BRONCHOTOMY.

By W. R. G. SAMUELS, M. D., F. A. S., San Francisco, Cal.

Bronchotomy is derived from two Greek words signifying the "cutting of the wind-pipe," or larynx, for the admission of air. The operation has subsequently taken the name of laryngotomy, and more recently still, tracheotomy.

The operation is intended to allow the free passage of air into the lungs of the patient when obstructed. So soon as the child is born into the world one of the first evidences of life manifested is caused by the passage of air into its lungs, which is usually followed by a good loud cry, very much to the satisfaction of all persons around.

The amount of air taken into the lungs during each twenty-four hours varies in different individuals and different conditions. Thus, for example, one writer estimates about four hundred cubic feet. Nevertheless, it undergoes a marked degree of muscular effort. With the ordinary exercise of the unoccupied man the inspiration will be as high as four hundred and sixty-six cubic feet; in more active life, about six hundred, in the case of the hard-worked laborer about nine hundred, and in Alpine climbing for about twelve hours some one thousand feet. A soldier carrying weight in marching order was found to increase the amount of air passing through the lungs at the rate of seven cubic inches for every pound of weight carried. In consumption and other emaciating disorders the person dies worn out and completely broken down, the lung-tissue having undergone a change and no longer capable of performing its functions of sanguification.

The subject, however, for which this paper was intended, is Tracheotomy, or, more properly speaking, making an opening into the wind-pipe. There are three methods by which this can be done, namely: 1. Cricotomy, made by dividing the cricord-cartilage—an operation seldom performed in the present day. 2. Laryngotomy, made by dividing the crico-membrane horizontally. Care must be taken not to injure or wound the muscles. Hemorrhage is very apt to occur by the wounding of

the crico-thyroid arteries. Access of air into the lungs is readily effected by this operation. 3. Tracheotomy. This is the next and most frequent operation performed at the present day. In fact, the others are obsolete. This operation is made by dividing the rings of the trachæ either above or below the thyroid body.[1]

Laryngotomy was first proposed by *Vicq d' Azry*. It was afterward recommended by *Desault*, and at one time was preferred to tracheotomy.[1] Dr. Lawrence, an English surgeon of note, says: "Of the three situations proposed to make an opening in the thyroid cartilage, between that and the cricord, I consider the first, namely, cricotomy, the least eligible."[2] Besides the objection frequently arising from the ossification of the cartilage and the danger of wounding or otherwise injuring the chordæ vocales, there is the inconvenience of the liability that angina laryngæ may arise from the swollen and thickened state of the membrane, impeding the passage of air into the lungs. Very many of the various diseases described by the ancients, including those of the throat, were thought to be due to a diseased liver. When suffocation threatened from any cause whatever, it was advised by Hippocrates to insert a pipe into the throat so us to give admission of air. It would appear, however, that Asclepiades was the first to discover bronchotomy: at least he is the first to give a clear and accurate description of the operation. He directs the operator to make the incision in the trachea under the larynx about the third or fourth ring. This point is the most eligible because it is not covered with muscle and no vessels are near it. The patient's head must be kept backward in order that the trachea may project forward. A transverse cut is then to be made between the two rings with great care, so as not to wound the cartilage, but only the membrane.

The operation was performed for *angina strangulans*, croup, quinsy, foreign substances lodged in the throat; although for the former affection it was common that the patient should be bled, and even blistered, before operating. In cases of suffocation, caused by bronchial emphysema, Desault advised the insertion of a gum-elastic catheter from the nose into the

trachea so as to allow the patient to breathe. I have not heard of this having ever been done by English or American surgeons. Although the French are said to have performed this operation, Pliny spoke disparagingly of it. Galen believed Asclepiades the inventor of Bronchotomy. Cœlius Aurelinus despised all that came from Asclepiades. Paulus Ægineta, who lived in the seventh century, states the best surgeons of his day had disliked the operation. The late Dr. Liston was of the opinion that Tracheotomy had, in most cases, superseded this operation.

Tracheotomy is no new invention. It is performed as follows: The head is thrown back and an incision made of about two inches long in the adult in the median line near the top of the sternum to the cricoid cartilage. The integument and fascia are cut with the point of the bistoury. The sterno-thyroid muscle is to be divided with the point of the knife together with a few fibres. All the loose tissues and veins are to be removed from the front of the trachea with the handle of the scalpel. If the thyroid gland gives trouble it is to be pushed up, and the trachea drawn up with the hook of the tenaculem. While the trachea is stretched the surgeon thrusts in his knife, with a slight jerk into the bottom of the wound, and carries it upward, dividing two or three rings of the trachea. The canula should not be inserted till a few moments after the operation. This operation has been modified by several surgeons, who make use of newly-invented instruments. In morbid conditions of the trachea it is much more safe to cut into the sound part if possible. For example, in laryngitis the effused lymph is more often confined to the larynx; therefore, to make the incision below the thyroid gland gives a better chance for the patient. Whereas, to cut through the crico-thyroid membrane, it very frequently happens that the opening is into the diseased part.

Bronchotomy has been proposed when the tongue is enlarged so as to exclude air from passing into the lungs. A case is recorded where the patient had taken a large dose of mercury, causing the tongue to swell. The operation was suc-

cessful. It has also been proposed for enlarged tonsils, polypus, drowning and small-pox in the trachea.

The operation of Bronchotomy in whatever way performed is not so dangerous an undertaking as many imagine. The real danger, however, consists in the above-named condition and position of the arteries, the time and place of the patient's location, and the attendance bestowed after the operation has has been performed. Such cases occur more frequently in the middle of the night than otherwise. The patient is half-asphyxiated, reduced by medicine and disease, struggling for breath, perhaps a very young child with short, fat neck, veins distended. Dr. Holmes found flatness of thyroid cartilage, the trachea drawn up and down with every inspiration and expiration, child half strangled, the doors and windows closed, every one excited and agitated, anxious to do something, a small room, bad lights, poorly ventilated, the persons who are to act as assistants nervous and agitated, the surgeon fatigued from over-work at night. Under such a state of things and conditions it behooves to have a steady hand, cool head and sound judgment. There is no time to reflect on this or that mode of operating or a life may be lost. Even then if the patient should die before the tube is inserted into the throat he is apt to be considered slow and guilty of the fatal result. If on the other hand the patient succumbs after the operation the surgeon is sometimes said to have operated improperly; so you see the dilemma. For my own part I do whatever I consider best, not heeding or fearing any reproach that may be cast upon me.

Desault has reported a case in which the carotid artery was wounded. W. A. Burns has given the following caution: "The arteria innominata is a risk in some subjects. I have seen it mounting so high on the forepart of the trachea as to reach the lower border of the thyroid gland. Even the right carotid artery is not always safe. I am in possession of a cast taken from a boy twelve years of age, which shows the right carotid artery crossing the trachea in an oblique direction. In that subject the vessel did not reach the lateral part of the trachea till it had ascended two inches and a quarter above

the top of the sternum." When both carotid arteries originate from the arteria innominata there is considerable danger in performing the operation of tracheotomy. These varieties should teach the surgeon to be fully on his guard and not use the knife more than necessary.

THE LINE TO OPERATE.

In many cases, such as diphtheria in young children, three distinct stages are observed: 1. The child is flushed, hot and restless; sits erect, distressed for fear of suffocation. 2. He is fatigued and half-unconscious, caused, doubtless, by the circulation through the nervous centres of blood imperfectly oxyaised. 3. He lies nearly or quite insensible; perspiring most profusely; a pale and bluish color encircling the lips and eyes. The exact duration of the different stages is somewhat uncertain in many cases. Two or three hours elapse between each change. When death takes place it is by coma and exhaustion, and not, as some might suppose, by a sudden closure of the glottis. The time for operating is in first and second stage. There is no denying the fact that tracheotomy is the best and only chance for success, more especially in children when afflicted with croup or diphtheria, when the pseudomembrane is confined to the larynx, when it reaches the trachea, and still less when it extends so far as the bifurcation of the bronchi. In such condition it is the only chance left for the patient. If the patient survives the shock it usually follows that directly after the operation has been performed the breathing becomes fully established. If a child is the patient it frequently resumes its usual habits and appears almost well again. This state of things, however, does not last long. In one case in which I operated, asphyxia returned twenty-four or thirty hours afterward as bad as ever. The tube was kept clean; still, however, the poor little fellow succumbed. A constant current of steam had been kept supplied. Doubtless the false membrane had formed below the point where the tube was inserted, and in all probability, too near the bifurcation of the trachea. In operating on children about to expire we run a risk—first, of finding the false membrane; second, an

inability to remedy congestion, engorgment-inflammation and pulmonary emphysema, which are common in the last stage of asphyxia; and third, the operation is rendered far more difficult in consequence of the great swelling of the cervical vessels and the surrounding tissues, causing a greater trouble to respiration.

ACCIDENTS DURING THE OPERATION.

Asphyxia, hemorrhage, shock and convulsions sometimes follow an operation. A case is reported in which the jugular vein was cut, owing to the operator not making his incision in the median line. A case is reported by Dr. Woods in which the tracheotomy-tube caused an ulceration downward, reaching the coats of the innominate artery, into which a small opening occurred producing fatal hemorrhage.

There is in St. George's Hospital, London, No. 52, in which the artery innominatar crossed high up in the neck and so near to the thyroid body that to have performed tracheotomy would have been impossible. Dr. H. A. Martin, of Boston, has adopted a plan in which the tube or canula is relinquished. The operation is as follows: "A silk ligature is introduced on either side of the wound at about one-eighth of an inch from the edge and through the skin at a corresponding point, and at a quarter of an inch from the line of incision. The two edges of the trachea and the skin are brought together by tying the ligature ,which is left uncut and with needle still attached. Next, a strip of adhesive plaster is applied to each side of the wound. The ends of the plaster next to the incision are doubled on themselves so that the adhesive surfaces come in contact through the strengthened portion, the ligature is passed and secured in such a manner as to open the tracheal wound." The great advantage of this operation is that the surgeon is always prepared with instruments in pocket-case. Tubes have been known to produce trouble by their misfits and causing irritation and inflammation. Dr. Durham has invented a vertebrated or "lobster-tail" canula in which the tracheal portion will adapt itself to the various curves.

Dr. Bryant, of London, has invented one with a ball-and-socket joint, which join the neck-plate to the tracheal portion. This does away with the tracheotomy-tubes altogether.

RAILROAD SURGERY.

By L. E. Russell, M. D., Springfield, Ohio.

For the last ten years I have been engaged by the different railroad systems centering here as "Railroad Surgeon," and during these years I have had to care for persons maimed in every conceivable way. I have found that the practice differed enough from ordinary surgery to warrant me in offering an essay on the subject.

Two trains, freighted with human beings and running at great speed, suddenly and without warning, collide. The consequences are fearful, yet cannot be appreciated except by those who have surgically attended the injured.

The almost instantaneous stopping of heavy machinery and rolling material is attended with crashing sounds, splintered timber, broken car-furniture, fractured bones and lacerated flesh. The passengers lose self-control and behave like maniacs. All are shocked and few are unhurt. In the fright and confusion the panic-stricken wretches in hurrying to and fro not unfrequently hurt each other. In cold weather not a few get burned by being thrown against hot stoves. Sometimes an excited individual will leap down an embankment, or over a bridge, and thus sustain injuries that might have been avoided if presence of mind had been retained.

Nowhere, except in battle, are such ghastly sights presented as in a railroad wreck. The facilities for treating the wounded are often more defective than those of a camp. The surgeon has to view or examine the victims hastily, and then attend to the wants of those most in need. Often only a temporary dressing is employed—a "fixing up," which is to do service till a better application can be made. All at once a poor stunned creature cries out from the depths of a mass of

disjointed timbers, and he must be rescued by the free use of the ax, and the fence-rail.

Here lies a man breathing heavily under the depressing influence of a fractured skull; and there is a body literally transfixed with a splintered piece of lumber. One is calling for water or morphia, and another for a dose that will end an unbearable misery.

It is not uncommon for the injured to be very cold though the weather is warm. The shock sustained has produced congestion, or arrested respiration and circulation. Such need wrappings and alcoholic stimulants. Occasionally a brisk hemorrhage is to be arrested; hence the surgeon in railroad accidents should have with him the means most useful in emergencies.

I can best illustrate the nature of some of my experiences by referring in brief to exciting cases that have come under my care. A fireman running to get on his locomotive slipped and fell under the moving wheels. A leg and an arm were literally mashed to pulp. He was taken to his home, and into a small room where there was poor light and no ventilation. He complained of being very cold, though the place was stifling hot. The pulse was scarcely felt, the face was pallid and clammy sweat exuded from every pore. Whiskey was given and morphia administered, and in a little while the patient appeared easy and sleepy. Friends think these symptoms are favorable, but the professional man, who has seen many similar cases, does not like the heavy breathing, livid lips, and actual pulselessness. He knows that these signs are fatal.

A brakeman fell between moving cars and the wheels pass over both legs, one limb being crushed above and the other below the knee. He was picked up and brought to our office. We, myself and partner, gave the chilly victim a quantity of whiskey and placed him upon an operating table. There was very little pain complained of, and the pulse forbade immediate amputation. In a half-hour some reaction is apparent. This is encouraging and a few breaths of chloroform are administered to see if the anæsthetic impression will not be favorable, as it sometimes is. The patient coughs a little,

rolls the eyes upward, appears stolid and soon dies. Did the chloroform kill the patient? "Not a bit of it." Death came from the profundity of the shock. The impression upon the nerve-centres was too great to be survived.

I was called to a man with a leg crushed above the knee. I found him with a cold sweat all over the body, and the pulse was scarcely perceptible at the wrist. An amputation was inevitable; hence an anæsthetic was administered, and a severence of the mangled parts took place. The femoral artery is looked for, but no spurting blood indicates its location. The tourniquet is loosened, but no arterial blood flows. The heart is evidently flagging; it has not power to force the blood to the extremities, and by the time the real state of things is comprehended the patient is dead.

A passenger crossing the platforms between two cars while they were in motion was toppled from the train. In the fall he sustained a compound fracture of an arm and leg. I conjectured that the limbs might be saved and cured. I dressed them nicely, gave an anodyne, and left him with the expectation of seeing him the next day. Before I made the second visit a messenger brought the news that my patient was dead.

Thus it goes in severe railroad accidents. The forces are so violent that they kill. Any medical man who has patients from railroad accidents will do well to give a doubtful prognosis.

I have encountered two accidents of great similarity in a single wreck. Each victim had a broken arm and leg. I dressed and treated both alike. On the fifth day a peculiar sickly suspicious smell was detected in the room of one of my patients. There was evidence of blood-poisoning and perhaps gangrene. All was done to counteract the evil tendency, but unmistakable death of a limb was apparent on the day following the suspicion. Amputation was performed, but did not arrest the dying process. A second amputation was followed by death. The cause of the fatal issue was thrombus of the femoral near the iliac artery. The plugging may have occurred from a direct injury, or from shock. The other patient recovered without an untoward symptom.

In a case of compound fracture and dislocation of the ankle, gangrene necessitated amputation; and two subsequent amputations were forced by necrosis of the tibia to the knee. The shock arrested circulation in the bone and necrosis was a sequence.

To know just what to do in a railroad injury calls for more sagacity and experience than ordinary men possess. I may say in the way of explanation and apology that I have learned to be conservative and rarely promise much in a powerfully-shocked case. Although friends frantically beg for my opinion in a given case, I studiously and sternly decline to venture a prognostication. Often I am pushed to give a rational account of the cause of the sudden death, but I cannot, for it is not in my power. I simply know that a man cannot stand the knocks and shocks of many railroad disasters.

In the mild cases of shock there is often a feeling of nausea; perhaps vomiting will occur, and then reaction may rapidly take place. A disposition on the part of wounds to bleed is a favorable sign. A lacerated limb which will not bleed is in danger from gangrene.

In crushing accidents, with considerable shock, it is not easy to decide what may be best. If an amputation is executed and the patient dies the next day, the surgeon may wish he had delayed a little; and if he postpone and the patient die he may think he ought to have amputated early.

It is to be borne in mind that railway injuries are not to be esteemed safe till well along toward a cure. A "back-set" is not uncommon ten days after the reception of the injury; and secondary hemorrhages have occurred as late as the fifteenth day.

Patients accustomed to excess of alcoholic stimulants have a poor chance to survive railroad injuries. I have known delirium tremens to come on the fifth day and carry a somewhat hopeful case to the brink of death. In such cases it is best to overcome the delirium with small allowances of whiskey. In a paroxism of delirium I have known a patient to tear off a dressing, and strike a bleeding stump till it bled dangerously.

Sloughing, or death of mutilated parts in masses, is often encountered, and if the surgeon is not expert in the use of antiseptics and disinfectants his patient will be beyond aid. Experience teaches that the effect of grave injuries extends outside the discolored and mutilated region; therefore the surgeon is wise who makes provision for the extended invasion.

A hand that has been crushed between bumpers may seem quite natural, yet be a bag of broken bone, with the soft parts thoroughly pulpified. Even though the fingers can be moved, it is by muscular force exerted above the injury. To attempt to save such a hand would be malpractice. If amputation is not performed grim death will show its horrid teeth. That characteristic rigor is premonitory of impending evil. When the tetanic grip is once on it rarely lets go.

We may give chloral, gelsemium, and reputed anti-spasmodics, yet these agents are too weak for so potent an enemy. It is an instance in which the weak things of this world will not confound the things that are mighty.

Again, a case seems to be progressing favorably till an unforeseen chill is experienced. "What is the trouble?" will be asked, and the answer is not given with assurance. The surgeon apprehends an invasion of erysipelas, yet the complication while masked cannot be fully identified. The dry tongue, the arrested secretions, hot skin, elevated temperature, and rapid pulse indicate a febrile paroxysm of a grave type. Yet the peculiar swelling and discoloration, the evidence of localisation, have not manifested themselves. In a few hours the testimony is all in and the verdict rendered. The exhibition of Baptisia as an antiseptic will accomplish nothing. It seems like mockery to trifle with such inadequate agencies. The patient is too thoroughly overcome to be medically impressible. Might as well "throw physic to the dogs."

In another display of cases, that insidious invader, pyæmia, sneaks in and upsets well-based calculations. The skin presents a bilious or yellowish tinge; a sweetish smell is exhaled, and a suspicious drowsiness comes on. The patient does not care to eat and is most content with drink and sleep. Now look for a secretly-forming abscess, perhaps of the liver. If

no tender spots be found indicating local suppuration, there is purulency somewhere. Here is where the credulous dispenser of drugs would prescribe iron, quinine, mineral acid and sulphite of soda; yet he might as well aim a popgun at a herd of flying buffaloes. The means are not adequate to the ends.

This arraignment of "Railroad Surgery" is not flattering and seductive, and may be too discouraging. Yet it is intended to be impressive as well as instructive; and to be thus, I could not help citing the worst cases that have come under my observation.

I would be a false guide if I reported only such cases as recovered. I have had hundreds of such, but they do not fall within the province of this article. It has been my design to array the dangers of a kind of surgery that is rapidly on the increase, and to show wherein it differed from that of ordinary practice.

In conclusion I would state that injuries sustained on railroads are often followed by litigation—claims for damages—hence the surgeon for the "road" is expected to serve as a witness in behalf of the corporation. He must therefore anticipate severe handling on the part of the lawyers of claimants, who generally take suits for personal damages on "shares." If the surgeon's management of injuries be not defensible he is about sure to find it out. For the attorneys of the prosecution will call to their aid the most reputable surgeons of the country. The responsibility, then, of a railroad surgeon are of a double nature, and should be paid for accordingly. He wants something more than a complimentary "pass." He should have more substantial rewards.

WHEN SHALL WE AMPUTATE?

By J. W. Pruitt, M. D., Russellville, Ark.

When we should amputate is one of the most important questions of surgical science. It has engaged the attention of the wisest and best surgeons of every age, and still to a

great extent it remains unsettled. It must be determined, if at all, by the degree of reparative power of the vital forces, and this can only be estimated from an intimate knowledge of physiology, aided by hygiene, as well as the various antiseptic agencies of modern surgery. Mr. F. C. Skey, of St. Bartholomew's hospital, well remarks: "I am persuaded that in proportion as we study disease and make ourselves familiar with the curative resources of nature, the greater will be our faith in her power of reparation and in her desire to exercise it;" and further: "This is the greatest of all questions, for it involves serious and permanent mutilation of the body; and, of all subjects of operative surgery, it is that which demands the most deliberate judgment, the highest standard of professional morality, and the broadest and soundest views of the vital forces of the body."

If we compare the present with the past we will find that the principle of conservatism is widespread; amputations were once frequent where they are now rare. Injuries that formerly condemned a limb to immediate amputation are now found amenable to treatment. Nevertheless, with all our knowledge of the vital forces and the resources of modern surgery, have we reached the goal of perfection in our judgment? May we not truthfully say there is more yet to learn than has been learned?

Looking at this subject through the past century, and taking the reports of the large hospitals of the world, we find that three times as large a percentage of operations were performed in some as in others, and that, too, with far more favorable surroundings. Where was then the standard of surgery to guide in the amputation of surgery? There certainly was no definite one, and the limb that was preserved in one hospital was sacrificed in another. The question can only be solved by an enlightened experience, which is not within the reach of all. Hence the inconsistency of professional practice, which so often is the cause of legal investigation and scientific inquiry.

In regard to the latter it would appear to arise from various causes operating upon the mind of the operator, and deter-

mining his course. The first, and perhaps most impressive in its influence, is the different degrees of allowance placed by different surgeons upon the recuperative powers of nature in the cure of diseases. Men take different views of the power of the *vis medicatrix Naturæ*. With some it holds the relation of a vicegerent ; with others a handmaid. The minds of physicians and especially of surgeons are not always convinced that nature, and not medical men, cures diseases and repairs injuries, and that our province consists solely in aiding her where needed. Within the last century amputations were three times more frequent than in the present. This is not because severe injuries are less frequent, nor that diseases have proved *per se* more tractable, but because the knowledge of physiology, hygiene, and therapeutics has advanced to a degree unknown to our predecessors.

In the next place, I believe, there now exists a higher tone of feeling in the professional mind than formerly, a greater regard for the value of human life, and sympathy for human suffering. As a rule the greater the experience of the surgeon the fewer the operations, and his greater reliance on natural agencies. I am very certain that their influence in the repair of injuries is not yet fully understood. The acquisition of this knowledge is necessarily elaborate and slow, but none the less sure.

Again, our opinions have been shaped and modified with what I conceive to be the erroneous views held by our forefathers on the subject of what were termed secondary operations. The theory of this almost universal rule of surgical practice was this : that it was better for the constitution to bear one shock than two ; and no reflecting man will deny it. It therefore resolves itself into the necessity of an immediate decision—now or never. *Now* saves life, but at the expense of a limb ; *Never* risks life, and it is our first duty to preserve it. But this plausible theory is only true in the abstract and not in the application. It may be true to the letter but certainly it is not to the spirit. Patients have recovered too often with useful limbs from grave and serious injuries, under the resources of modern surgery, to admit of the general

adoption of this antiquated theory. The exceptions to its application are innumerable. It can only apply in full force to cases of extreme injury, such as large contusions, crushings, or lacerations of limbs from which, if left alone, recovery is impossible. Consequent upon such injuries the constitution must necessarily sink, and the earlier the operation the greater the probability of recovery, because collapse of the vital powers is the certain issue, and reaction is impossible.

After the lapse of what period of time from the injury may we term the operation primary or secondary, so as to bring it in the category? After the expiration of what time is a primary converted into a secondary operation? By *immediate amputation* I understand the removal of a limb as practiced on the field of battle when the patient is removed to the rear for the purpose. But if several hours elapse do we still retain the term "immediate amputation?" No distinction is made between an interval of one to ten or twelve hours. If circumstances intervene to prevent immediate amputation is it not an additional argument in favor of the treatment that appeals to Nature, and which calls upon her to put forth her powers for restoration?

Mr. Abernethy having successfully treated three cases of compound dislocation of the ankle-joint, that had been condemned to the knife by other eminent surgeons, used to dwell with forcible eloquence upon the curative powers of Nature in the repair of such injuries. Had he lived in our day he would not have made these the only exceptions to a rule that requires far larger limitations.

It would be well for humanity and science if we could draw a definite line that would determine the amount of reparative energy in any given case. That there is such a line, though obscure to our senses, will hardly be disputed by any one who has observed how common the resort is made to the knife in some countries compared with the practice elsewhere. Such is the complication of the requisite inquiry that the difficulty of decision is indisputable. Nevertheless some approach may be attempted to a more general rule, founded on the nature and extent of the injury, amount of vital force and vital tenacity

of life than has hitherto guided the surgeon in his decision, although the question of local injury will be subject to large modifications founded on age, sex, the character and condition of constitution of the patient.

The following practical division suggests itself and may serve as a guide somewhat to the young surgeon in the decision of this important question: First, such cases as beyond a doubt require amputation. Secondly, such as justify amputation; and thirdly, such as neither require nor justify amputation. In regard to the phrase "justify amputation" we would remark that to *justify* may mean to give the appearance only of justice, and not the reality; to obtain the sanction of the world. A man may have the approval of public opinion, while he does not have his own. He may be safe from public comment or criticism, while he is amenable to the denunciations of his own conscience. By the term "*justify*" I mean that warrant in favor of the removal of a limb which is obtained from the consideration of an injury placed on the confines of necessity, especially if occurring in early life, advanced age, or in impaired constitutions.

Of the structures entering into the composition of a limb, all of which are subject to rupture or disorganisation, the first importance perhaps attaches to the arterial system. As, however, universal experience has demonstrated that the channel of the main artery may be suddenly obliterated without danger to the vitality of the limb, so the rupture of the main arterial trunk, as shown by the pulseless condition of the limb below the seat of injury, is of itself no warrant for amputation. But if in addition to this the muscular structure at the point of injury is greatly contused, and the collateral channels, arterial and venous, are involved in the injury, it is more than probable the limb will fail in nourishment, the indication of which is loss of temperature. This loss if complete will become apparent in an hour or so, but this is rarely the case; and several hours, or even a day may be required to ascertain the actual extent of the mischief. But the evidence is all important and fully justifies the postponement of the decision.

Next in importance to arteries and in close relation to them stands the nervous system; and in reference to injury to the chief nerve or nerves the same remark will almost apply. We do not amputate the leg because the sciatic nerve is rent asunder. The true principle of conservatism would dictate a pause—a period of watching and observation. But as the rupture, either of artery or nerve, is ordinarily a matter of uncertainty, we can only judge by effects; and for these we must wait.

To justify amputation from rupture or laceration of the muscular system of a limb, the injury must be very great, as the constitution does not ordinarily sustain a shock in proportion to the extent of the injury, supposing the integuments to remain unbroken. If, however, the muscles be extensively ruptured, and integuments detached and not susceptible of entire replacement, the power of nature to restore the parts to health may well be doubted. I mean very large lacerations and contusions, with extensive separation of the integuments and extravasation of blood. I do not agree with some surgeons who regard exposure of the cavity of a joint an important element of failure. I am well aware that it has been and by many is still so regarded. I call to mind the early part of my professional career when a compound dislocation of a joint was deemed a just cause for amputation. Yet there are many cases recorded of recovery as regards the limb, and a few of the joint itself.

Too much importance, it seems to me, is attached to fracture into a joint; as though such a fracture, in the retention of a useful limb, raised a serious obstacle to recovery. That it places the joint in danger cannot be denied, but I do not believe that the advocate for amputation in any given case can derive from its presence an argument of great force, though I do not deny that it should be considered an aggravation of the mischief done. These remarks apply to fracture of bone, especially if comminuted, when superadded to the larger injury of the main artery or nerve, extensive rupture of muscles, or laceration and disorganisation of the integuments.

I have never seen much good result to the patient from

passing the finger through an opening in the skin and turning it about in all directions to ascertain the nature and extent of the injury. Too much probing generally proves a bad thing. I never have myself gained much information by it, nor witnessed others who did. So far as the patient is concerned it appears positively objectionable. True, it may gratify curiosity and make a show of doing something, but it is at the expense of some suffering.

Finally, after weighing well all the circumstances of the case, the nature and extent of the injury, the strength of the reparative forces, etc., in all doubtful cases, I would give the benefit of the doubt to the patient and endeavor to restore the limb. If the leg, thigh, foot, arm, forearm or hand, in consequence of large injuries lose for any length of time their natural warmth, that cannot be restored by any reasonable means, I fear amputation is the only resource.

If we find extensive laceration of the muscles with extensive separation of the integument, and especially if it be disorganised and unsusceptible of replacement, then, I fear, we must amputate without waiting even for appearances of loss of vitality in the extremity; but in a moderately healthy subject I do not consider that any degree of comminution of bone or laceration of muscles, unless very extensive, any fracture into a joint, or compound dislocation of a joint, would justify a resort to the knife, so long as the parts are capable of some general replacement, and the patient can submit to the confinement necessary to his recovery.

Since the introduction of the various antiseptic agents, carbolic and salicylic acids, thymol, etc., into surgical practice, together with the attention paid to drainage of wounds and cleanliness, the percentage of recoveries from grave injuries of the extremities has greatly increased.

ANTISEPTIC WOUND-DRESSING.

By DAVID WARK, M. D., New York City.

The fact that subcutaneous wounds heal readily by the first intention without suppuration, even in persons whose constitutional condition is not conducive to the rapid cicatrisation of open wounds, I believe first directed the attention of surgeons to the importance of preventing the destructive influence of air and air-germs on traumatic surfaces. The method devised by the celebrated surgeon Lister to attain these purposes, however effective it may be when every appliance is at command to enable us to carry out his complicated directions to the most minute detail, I think falls far short of placing at the command of the general practitioner a cheap, effective and universally applicable means of dressing wounds antiseptically. Lister's method has been faithfully tried by the leading ovariotomists of Great Britain, and has been abandoned by all but one. This great surgeon aims to exclude living germs from raw surfaces during an operation and to seal the wound hermetically by special dressings against air and the germs which it carries from the time the knife is applied till cicatrisation be complete. The numerous failures that have occurred in this attempt to very able surgeons who were familiar with every detail prove that it is very difficult. The objections to it from the standpoint occupied by the general practitioner seem to be as follows:

The spray obscures the operator's vision, particularly if he use spectacles, and renders the operation more difficult. The dressings are complicated and cumbersome, because they must consist partly of bulky material capable of absorbing and rendering antiseptic a considerable part of the discharges. For this purpose numerous thicknesses of carbolised gauze, masses of sawdust, dried clay and peat have been employed. When any accident or operative procedure penetrates any tissue from one side to the other, forming a wound having two opposite openings, the Lister dressings are inadvisible from the nature of the case. How can air and air-germs be

excluded from the raw surfaces produced in operations for hare-lip, vaginal fistulæ, laceration of the perineum, etc.?

All the effective antiseptics hitherto tried by Lister and his followers are open to the grave objections that they irritate the wound and are very apt to give rise to general toxic symptoms from unavoidable absorption into the circulation. Carbolic acid, the antiseptic preferred by Lister, frequently causes very grave renal irritation, particularly in subjects whose kidneys are not quite sound.

A liquid perfectly adapted to antiseptic wound dressing must be competent to completely prevent putrefactive change in wounds, from whatever cause the decomposition may arise. It should not unduly irritate the raw surfaces, nor should it be poisonous or volatile. I believe that dilute alcohol possesses all these desirable qualities in a higher degree than any other liquid or solution of which we have any knowledge at present. Its power to prevent decomposition in all organic substances is too well known to need comment. When applied to raw surfaces a slight smarting is caused for a few moments, which soon passes away without subsequent irritation. It never produces poisonous symptoms however freely it may be applied to wounds of the most extensive character, and it is not unduly volatile.

During operations no care need be taken to exclude air-germs from wounds ; these do no harm if they be not allowed to live and increase between the cut surfaces, and they can be perfectly and permanently destroyed by the free application of a mixture of 25 to 30 parts alcohol and 70 to 75 of water.

After the edges of the wound have been approximated and secured, cloths saturated with dilute alcohol should be applied and covered with oiled silk or rubber sheeting. As often as these become dry they should be again moistened with the dilute alcohol. If these simple directions be carried out wounds scarcely ever suppurate and never become septic, the discharges never decompose and the healing process will go on as quickly and steadily as if the Lister dressings had been applied in the most perfect and successful manner.

If the surgeon desires to examine the wound no injury can

possibly result from the entrance of air and its germs during examination, if he carefully saturates the still unhealed surfaces with the dilute alcohol and completes the simple dressings as already described.

The antiseptic method of wound-dressing here advocated is not new. The good Samaritan could not have been ignorant of it because he poured wine into the wounds of his neighbor, who had been attacked by robbers on the road from Jerusalem to Jericho, as mentioned in the Gospel according to Luke.

PROSTATIC CALCULUS.

By A. J. Howe, M. D.

It is not uncommon for minute calculi to form in the mouths of the ducts of the prostate, or in a sac or pouch that may be developed in the gland through an aggregation of calculous bodies at some point. Probably the sinus pocularis is oftenest the receptacle of a minute urinary calculus, that develops at length into a stone of considerable size.

In March I was introduced to James Ross, a baker by trade, who had suffered many years with a urinary difficulty, and had found considerable relief by drinking freely of the water from Eureka Springs, in Arkansas. After a few minutes' conversation I became impressed with the idea that a calculus existed somewhere along the urinary conduits, and asked the privilege of "sounding" the bladder. The patient demurred at first on the ground that such explorations made his symptoms worse, to say nothing of the hemorrhage provoked and the pain temporarily inflicted. However, I persuaded him that the soundings should be gentle, and that no blood would probably be seen. As soon as an instrument reached the prostate, the grating of a stone was encountered, hence the implement was not carried into the bladder. The patient, with sound manipulated by himself, felt the calculus, and

detected its situation. He said it was near the bladder, but not in it. I measured the stone carefully enough to determine it was one of considerable size.

About a year previously a surgeon in St. Louis had explored the bladder on two occasions to see if a vesical calculus did not exist, but he failed to find what he sought. How he could pass a sound through the urethra and not hit the rock is a mystery, for it was then as large as at present, or nearly so. The patient then took medicine under the assurance that his disease was ordinary cystitis. However, he got no relief from pelvic pain and a teasing inclination to void urine frequently, except the partial exemption obtained at Eureka Springs.

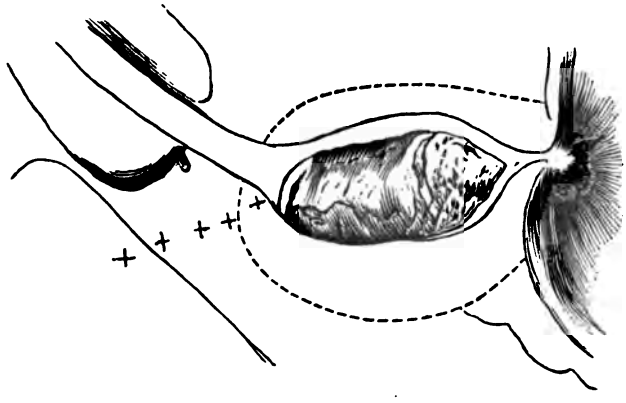
On the 18th of March I gave the patient an anæsthetic, and endeavored to seize the calculus with urethral forceps, but the body was so hard and large that it could not be moved. A lithotrite could not be made to do its accustomed work in so restricted a space, and Bigelow's Evacuator could not be employed with success. Having tried several ineffectual methods, I resorted to excision. A lithotomy-staff was cut upon at a point a little to the left of the center of the perineum, and the stone easily reached. It was found in the floor of the prostatic urethra, and removed by the aid of forceps. The bleeding was not considerable. The vesical sphincter was not cut; hence the urine was under the control of the will from the first, though a large part of it escaped through the incision—the external wound—for several days. As the passage healed the urethra resumed its accustomed functions; and at the end of fifteen days the patient had entirely recovered.

The calculus was an inch and a quarter in length and a little over a half-inch in diameter. A pointed end presented to the neck of the bladder, and must have turned the urinary flow into a funnel-shaped stream. The lower end was conical, and the body was smooth and cylindrical. In some respects the calculus resembled an elongated acorn with the cup attached.

This was one of the largest calculi of the prostate ever removed. I had taken one as large as a white bean from the fossa navicularis, and a still larger one from the pocket in the

floor of the urethra just in front of the scrotum. The one in the fossa was dislodged by enlarging the meatus upward and into the glans; the other, in the urethral pouch, was removed through an incision made to evacuate the pocket. The incision was made under the impression that the tumor was a cyst.

The accompanying diagram represents the size and general aspect of the calculus. The crosses indicate the course of the incision through the perineum.



MEDDLING AND MISTREATING OF A CASE.

By G. C. Chaney, M. D., Independence, Kansas.

I was called sometime since, in consultation with Dr. C., to see a young man that had been thrown from a horse, alighting on his right shoulder, producing a fracture of the acromian process and dislocation of the humerus. Dr. C. administered chloroform and attempted to reduce the luxation, but failed. I arrived about five hours after the accident occurred. The patient was a young man about nineteen years of age, a heavy, muscular fellow, weighing about one hundred and sixty pounds. His right shoulder was greatly swollen, and almost black from extravasation of blood. It could not be handled or examined without causing him severe

pain. Dr. C. and I administered chloroform to complete anæsthesia, and on examination I concurred with Dr. C.'s diagnosis. By manipulation, *a la* Dr. Howe, we had but little difficulty to replace the head of the humerus in its socket with the characteristic thug. I saw no more of the case for about three weeks. At that time he had not gained perfect motion of his shoulder, and there was a lack of the prominence as is naturally given by the acromian. I explained to him that the impediment was caused by the injury to the process of the scapula, and directed him to exercise the arm gently, assuring him that in a short time the motion of the joint would be perfect. He followed my advice and in a few weeks he had a perfect joint.

During the time of this impediment to motion in the boy's shoulder, Dr. G., an Old-School man, said to be the best anatomist in the State of Kansas, met him and availed himself of the opportunity to examine the case. He declared to the boy that we had not reduced the luxation. Dr. G. also called Dr. M. to diagnosticate the case. He told the patient that anybody who said that that shoulder was set was a d—ned fool ; and that Dr. C. and myself were liable for malpractice. They succeeded in getting him somewhat anxious in regard to his condition. The boy reported the Doctor's language and assertions to us, took our advice, and came out as above stated.

During the time that he was thus crippled, and while two Old-School doctors were waging war on us, he visited his lady-love ; and while standing behind the chair in which she was sitting with her right arm elevated above her right shoulder, he affectionately grasped her hand, gave it a quick jerk backward and downward, producing a sub-glenoid luxation of the humerus. Although Dr. C. was nearest and was their family physician, Dr. G. was called to reduce the dislocation. The doctor manipulated the shoulder, and told her that the luxation was reduced, but could not understand why the border or base of the scapula persisted in standing out so prominently. He requested the lady to lie on the floor, face downward, and he would press the shoulder-blade to its place

by standing on it. She complied and the bone yielded obedience to his weight; but when he stepped off the scapula came up. This operation was repeated several times, and as often did the refractory bone persist in having its own way. The question by this time became a square issue with the doctor. He must either stand on this lady's back always, or let the bone do the standing. He was positive that he had reduced the luxation, and that he had adjusted the relation of the origin and insertion of the muscles. Hence the stubbornness of the scapula was the more mysterious. He told her that nature would adjust this little deformity and all would be well in a few days. On leaving he requested her to call at his office in a week. She did so, and he called Dr. M., (above mentioned). They examined the shoulder, and decided it to be still dislocated. They again attempted to reduce the luxation but failed. They then examined the shoulder more closely, and declared that there was a fracture of the humerus near its head. They did the arm up in splints and sent her away, directing her to call in a week. She presented herself at Dr. G.'s office according to agreement. Drs. G. and M. called two other surgeons of their school, to assist them. They examined the case very minutely. Diagnosis: shoulder dislocated. They administered ether, and attempted a reduction by main strength with the assistance of pulleys, but failed again and gave it up; Dr. G. agreeing to take her to Kansas City and have her shoulder fixed at his expense. The young lady refused to go, and was left to be a cripple for life.

In the course of time she employed an attorney to prosecute Dr. G. for malpractice. Acting by the direction of her attorney, she applied to Dr. P., (a liberal Allopathist) and me to ascertain the condition of the shoulder. We found the head of the humerus half-way between a sub-clavicular and sub-glenoid position, and supposed that it had been worked there by manipulation. We told her that it could be reduced. Accordingly, with her consent and that of her lawyer, we performed the operation with but little difficulty. This gave her good use of her shoulder and arm. The scapula dropped to its proper position and seemed to fit as nicely as if nature had intended it for the place.

The suit for malpractice was put off from time to time till several parties to it had left the county, and it was then thrown out of Court.

PLASTIC OPERATION.

By T. Hodge Jones, M. D., Lamar, Mo.

Morioplastice is that branch of human surgery which treats of the restoration and formation of lost or absent parts of this body. Many names have been applied to operations of this kind, from the structure involved, by adding to the anatomical name of the part to be repaired the word *plastic*. The uses of the operation are to correct deformities and to give symmetry to ungraceful portions of the body. The necessity for it may arise from accident, from congenital malformation, or, as history asserts, from the results of a kind of punishment for certain crimes in barbarous nations.

The last-mentioned cause, it seems, has given rise to the operation. So many persons were mutilated for offending the law that physicians were importuned for relief. Hence, as early as A. D. 131, Galen, at Alexandria, in Egypt, is said to have practiced rhinoplasty, or the art of rebuilding the lost nose. In surgery many considerations are necessary to the successful performance of any operation. Plastic operation consists chiefly in transplanting healthy integument and tissue from some other portion of the body to the locality of a deficiency. The general health of the patient, the condition of the part needing repair and its locality, the state of the weather and temperature of the apartment wherein the operation is to be performed, should be well understood and adapted to the occasion.

The nature of the integument covering adjacent structures, should be examined as to thickness, color and pilosity; it must be healthy at the site selected to supply the grafts and possess as nearly as practicable the properties of the natural covering of the part to be reconstructed.

A cicatrix will not yield good grafts, and it is better to take them from the patient than another person. It may be stated as true that no such operation should be performed while the causes remain of the deficiency it is designed to supply. The preparation of the patient and attention to surroundings required will be suggested by the conditions in each case. The general health must be at its maximum, and the best-known means to keep it so adopted. It is of the minor operations only that I wish to treat in this essay.

Recently, Dr. D. J. Hamilton, of Edinburgh, Scotland, successfully grafted sponge, antiseptically prepared, into spaces left by the excision of tumors, and thus aided the filling-out of the loss of material consequent to the removal of the unhealthy substances.

Dr. McEwen, in *The Lancet* for May, 1881, reports a case wherein he successfully transplanted pieces of bone from one person to another, which made amends for the ravages of necrosis. Our authors have given very specific directions for modes of proceeding in correcting hare-lip, cleft-palate, perineal fistula, penile fistula, extrophy of the bladder, etc., seemingly to neglect of the class of smaller cases to which I shall refer. Many excrescences, spots, scars, moles, etc., disfiguring the face and neck; bald spots on the scalp, unsightly nævi, livid discolorations, powder-stains, etc., on the face or hands may require removal.

Ulcers of the leg are among the most intractable minor affections which we are called upon to treat. I suggest skin-grafting as among the best means of correcting the conditions mentioned. In any plastic operation the skill and judgment of the operator will do much to modify his actions. For ulcers and tumors the unhealthy substance should be cleared away and granulation encouraged. The amount of tissue to be removed in such cases will depend upon the extent of the affected parts. The only safe rule is to extirpate the diseased matter. In cases of scalds or burns, where the skin slips off, there may be little material requiring removal. The objects of treatment are to hasten resolution and avoid contraction of the integument. Accidental injuries will furnish cases in

which no preparation of the patient can be had; but in ulcers from syphilis very careful hygienic measures will be necessary to give promise of success. For the performance of the many operations herein alluded to, a few measures are common and the judgment of the surgeon must supply the changes: First, careful preparation of the patient and apartments. Second, thorough removal of all the diseased or superabundant tissue. Third, the application of antiseptics and stimulants to hasten granulation. Fourth, when granulation is well established, the application of carefully-selected skin-grafts, to the raw surfaces. Fifth, covering the grafts with antiseptic cotton, held by adhesive strips.

For the stimulant and antiseptic wash and a general dressing, I suggest a solution of chloral hydrate, ten grains to the ounce, in a mixture of pure water and glycerine, equal parts. If the grafts do not take, it will be well to use a much stronger solution of chloral, in order to destroy unsound granulation; and at the proper time apply new patches or grafts as before. The grafts may be of very small size, or as large as a half-inch in diameter. I think that the plastic operation should be more generally practiced. It is useful in all wounds where the skin is not sufficiently loose to approximate and stitch, and when large surfaces are demanded. This is a field open for cultivation and improvement, worthy of diligent study and cautious experiment.

NOTES ON SYPHILIS.

By A. J. Howe, M. D., Cincinnati, Ohio.

My object at this time is to make some practical remarks on the treatment of some phases of syphilis, and to do so without discussing theories in regard to the number of *species* or *varieties* of venereal disorders. Inasmuch as I am an avowed dualist, I will name a few who entertain similar views on that point, in order to show that I am in pretty good company. Once Ricord believed that soft and hard chancres came from

one virus, and that both kinds of sores needed mercury for their cure. Now the old syphilographer holds that the soft chancre is a local disease, and that the hard variety is constitutional; that the first-mentioned needs only topical treatment, and the latter systematic medicines—mercurials and "alteratives." Concurring in the same views, among the French, are Chomel, Dupuytren, Bassereau, Rollet, Diday, Guerin and Founier. English surgeons are divided on the question. Yet in favor of the dual existence of syphilitic poisons are Mr. Berkeley Hill, Drs. Drysdale, Barton, Lee, Patrick Watson, Aitken, Nevins, Prof. Longmore and Sir Henry Thompson. Belief in the dual theory is evidently on the increase at home and abroad; in fact, there are few surgeons of note who hold the old unicist dogma. However, I have no desire to force a theory beyond its legitimate limits. I have no individual interest to serve. This is an age of free discussion and independence of opinion. Let every one focus an incandescent light on every disputed point in science, and use lenses when they are of service. This is too late for strabismic opinions to prevail.

The importance of discussion rests here. If a venereal sore can be cured with topical applications, what is the use of wasting money on internal medicines, to say nothing of the harm they may do? Then, again, the harboring of an error cannot be otherwise than damaging to a physician. If a medical man believe in the protective influence of vaccination, and there be no immunity in the scheme as alleged, then the deceit is detrimental to him and to all to whom it pertains. On the other hand, if successful vaccination be protective to a valuable extent, those who entertain no faith in it are injuring themselves and the community in which they practice.

It has been affirmed by the champions of the single-virus theory that the medication of every case can do no harm even if the disease be local in its nature and manifestations. But an answer in part to such an assertion has already been given; and in addition it may be said that a patient is mentally disturbed by the thought that he is contaminated with a disease believed to be transmissible from parent to offspring. I have

never treated a patient who was not relieved of evil forebodings by the assurance that only a local disease had been taken Lastly, it may be stated that the constitutional form of syphilis cannot be taken but once, or can only have one invasion; while the local variety may be taken a hundred times, or as often as gonorrhœa or pubic parasites. It must be some comfort to a man who has had all the phases of systemic syphilis to believe that he can never have the disease a second time.

The treatment for local sores or chancroids, is to sprinkle upon them twice a day a pinch of pulverised borate of soda—common borax. The application is attended with neither pain nor inconvenience. Under the influence of this cleansing antiseptic agent the ulcers lose their destructive character, and develop healing, granulating, activity. Is there anything more simple in the practice of medicine? And the method is as efficacious as it is simple. A local disease easily cured cannot be alarming; but at the same time *it* is picked up, the patient may take the clap, lice, itch and the constitutional kind of syphilis. These are independent forms of disease, and may be imparted and received in a single sexual contact. But, it is to be borne in mind, that the ulcers of the local variety of venereal disease appear in a few days—within a week—of the time of contamination; and the "initial lesion" of true syphilis of the systemic variety, makes its appearance not before the lapse of twenty days, and often not for forty or fifty days. However, the essential principle of the disorder entered the absorbents at once, and proceeded upon its career from the start; but it requires weeks of latency, so to speak, before it evolves the "initial lesion." Then, again, the primitive sore, which is *single*, and not *multiple* as in the local disease, is more of an indurated nodule than an excavated ulcer with soft margins or borders. Now if the "hard chancre" be cut out—excised—with curved scissors, not much is gained. Either another will form at the seat of traumatism, or "secondary manifestations" will the sooner appear. The virus in an advanced state of activity has contaminated the entire organism, whether the varied phenomena of the disease come

in regular order or not. Some patients will throw off the virulence so fast that the disease does not reach what have been denominated "tertiary phases."

The earlier of *secondary* displays are states of waste manifested in loss of flesh, decline of appetite, mental dullness and despondency, disturbed sleep, coated tongue, bad breath, physical feebleness, and a distinctive eruption often preceded by a rigor or chill, and, perhaps, night-sweats. I say "distinctive" eruption, for it is not like that of scarlatina, rubeola, or other common disease. It is sometimes coppery in hue, yet it may be bright red or dusky brown, and even scaly. It is not to be mistaken, even by a novice.

At the time the eruption appears, the irides are likely to become sensitive. It is well known that the iris is in sympathy with the skin. The color of the eye—hue of iris—is in harmony with the general "complexion." A blue eye is not associated with a brunette; or, if it is, a *queer* combination is noticeable. Well, the iris is inflamed soon after a syphilitic eruption appears; and the sufferer does not see well. It is not a rare concomitant for a syphilitic patient to become quite blind.

By the time the tegumentary efflorescence subsides, which may be in two or three weeks after its earliest manifestation, a sore throat—inflamed or ulcerated tonsils—becomes a feature; and then ulcers of the lips and gums, or fissures of the tongue come along in order. Meanwhile the "initial lesion," "primary nodule," or "hard chancre" on the genitals, disappears whether treated or not. It is not common for primary, secondary, and tertiary phenomena to be present at the same time. One usually succeeds the other, though the phases of syphilis are variable in feature, and in order of sequence.

Inasmuch as the hair and nails are products of the skin, an eruptive disease might be expected to impress those structures. In most instances the hair falls, and in a few two or three of the nails exhibit ulceration at their roots.

The treatment for constitutional syphilis consists in the administration of such nutrients and medicaments as have

been ascertained to arrest progressive anæmia, and to contribute to general recuperation. For, be it known, the virus of syphilis, whether it be a microbe or not, is a potent devitaliser. Fat and muscle melt away under its influence. A patient cannot eat and digest food enough to stay the waste of tissue. The disease enlarges and functionally deranges the lymphatic glands of the entire organism. Though fairly-rich lymph be offered to and taken up by the lacteals, the mesenteric glands are impressed morbidly, and cannot elaborate good leucocytes from the nutritive fluid; hence the sources of blood-making are prevented, if not entirely cut off. If there be no white globules evolved from the lacteal supplies, there can be no hæmacytes or red globules elaborated in the arteries. Here, there is a complication of disordered action, which will tax the resources of the average therapeutist. He may flounder in the slough of "specifics," till his lack of success makes him wish he had never seen his patient; and the patient, enduring one pang after another, through long and wearisome nights and days, till weeks and months have elapsed since the beginning, will be prone to think his medical adviser is inefficient or medicine possesses not the curing powers which he had fondly dreamed. Possibly the doctor has done well—the best that could be done—yet neither he nor the patient appreciate the true condition of affairs. Syphilis cannot be chased from its abode as a ferret drives a hare from its burrow; nor is it to be drenched or washed away with masterly-behaving physic. The allopathist may claim mercury as the only genuine and potent specific; the homœopathist may aim, like David, to strike down Goliath with a pebble or pellet; the Eclectic may pin his faith to a much-compounded syrup of Stillingia*; and the Botanic concoct "alterative" herbs till his unscientific broth is vile as that of Hecate, yet the syphilitic patient will have a sore mouth, a year or more after the appearance of the "initial lesion."

* Dr. J. Marion Sims recently published an article in a London medical journal in which he gave the credit of devising this mixture to the Indians and the plantation negroes of Alabama. American medical journals at once copied it as important information, while Eclectics laughed. But we had thought that we had a right to expect more honest candor from Dr. Sims.—A. W.

What! is there no balm in Gilead? Not much! But something can be done with nutrients and peptics, and with remedies known to be useful in anæmic states of the body. Feed that wasting syphilitic patient on delicacies! Whet his appetite with pickled olives and cranberry jelly! Let the best beef soup be served to him; let oysters in tempting "styles" be offerings unto him. He may relish French pease with "sweet-breads." A meal of a fatty mackerel may go down, especially if washed with cider or sparkling wine. A slice of boiled ham with mustard and rye-bread, may do for a dinner. A well-done poached egg, buttered, and seasoned with horse-radish, will do to end a breakfast. A broiled chicken, with tomatoes, makes a delicious lunch. Need I mention more? No; but exercise your ingenuity, and consult the tastes and caprices of the patient.

Next come medicines. Let them be as palatable as possible. First on the list is arsenic. Let it be in the form of Fowler's Solution. The maximum dose is one drop, which may be repeated three or four times a day. I commonly incorporate the medicine with a syrup of hypophosphites, or with the elixir of cinchona. Secondly, I will mention iodine, and in the form of iodide of ammonium. Let the medicine be dissolved in water or a pleasant elixir. It should not be exhibited in a syrupy mess, lest it create dyspepsia. Three or four grains of the iodide may be administered every four hours during three or four days. Some other medicine should then be given. Let it be iron in an elixir, with strychnia or cinchona. After a few days of such treatment, the patient is to take the elixir of phosphorus. The agents named should be changed often—every two or three days. Two can be given in alternation on the same day. If an attack of dyspepsia come on, the minerals can be dropped for a few days, and nux and pepsin be substituted. The preponderating idea should be to keep the stomach in as good a state as possible, and not over-rate the anti-syphilitic efficacy of any remedy. Recollect, there is no known specific for the cure of syphilis; but there are many medicines which assist in the elimination of the disease. The unaided vital powers will overcome the dis-

ease. The sailor, having a chancre, may "ship" on a whaling voyage of two years, and when he returns, he will have no sign of the syphilis, though he has not taken a particle of medicine since he left port. He had all the phases of the disease in its "secondary" stage, but no "tertiary" phenomena. The iodine of ocean-breezes overcome syphilis to an appreciable extent, and so do the soluble minerals of certain spring-waters.

To make the hair grow when baldness has arisen from a syphilitic scalp, it is well to make a compound of glycerine, rose water, Fowler's Solution, and tincture of cantharides—a fluid-drachm each of the two latter to two fluid-ounces each of the two former. This is to be rubbed on the scalp twice a day.

Tertiary pains in superficial bones are of periostial origin, and are to be subdued by the internal administration of large doses of iodide of potassium, and by topically treating the sensitive parts with a liniment of equal quantities of the tinctures of aconite and cayenne. If the periosteum be bulged into nodes, they must be slit or incised with a knife. This procedure allows the escape of pent-up jellies, and relieves the tension of an inelastic membrane.

An individual can communicate secondary syphilis, but not tertiary virus, except to the extent of producing local sores or chancroids. It has long been my view that "soft chancres," so called, were sired, or, perhaps, dammed, by tertiary syphilis. I admit this is a hypothesis of my own, yet one that has some grounds of support.

Tertiary phenomena are chiefly confined to the bones; yet they may be observed in connection with soft structures. The muscles and tendons may have cheesy tumors develop in or upon them; and these lumps may degenerate into abscesses and chronic ulcers. When the latter heal, they leave distorting scars.

REST IN CONSERVATIVE SURGERY.

By S. E. MARTIN, M. D., Topeka, Kansas.

Pain is the most important characteristic, pathologically, which the physician is required to consider. He must determine first of all the condition of which it is a feature, and afford relief as surely and promptly as lies within his power. Before going farther, therefore, let me ask in regard to that specific condition usually termed neuralgic, whether it is really an exaltation of the function of sensibility. It has certainly been described by many distinguished writers as an hyperæsthesia, or excess of function. Others, however, deny this. Then confusion is made from the difference between function and action. The former in the natural activity of the organ, whereas the latter includes all processes of acting or moving, whether normal or otherwise. The action of the nerves may be extended to perturbations far exceeding any ordinary functional motion. The disturbance of nerve-force which is manifested by tetanic convulsions will not be regarded as merely an exaggerated degree of the orderly action by which the nervous system responds to a volition and impels a given set of muscles to contract.

The functions of the sensory nerves in a state of health is to convey sensation to the perceptive focuses. For example, the large surface of nerve-terminals represented by the collective peripheal branches of the fifth pair of nerves receives an impression from atmospheric conditions, and transmits it to the medulla oblongata. When the air is neither hot or cold, the sensation thus imparted is agreeable, and results in the reflex action of breathing. When, however, the temperature is cold and chilly, reflex actions of an abnormal character are produced, as pain and sneezing. It is absurd, therefore, to consider sneezing a normal performance of the functions of those nerves the office of which is to regulate expirations. In like manner, it is absurd to declare pain to be the natural function of the sensory fibres of the trigeminus.

Sir William Hamilton, in his work, *Theory of Relations of Perception and Common Sensation*, remarks: "The best way

to illustrate looseness and incorrectness of applying the term hyperæsthesia (implying exalted function) to the state of sensative nerves when suffering pain, is to examine the condition of distinctive preception in the very same parts to which the painful nerves are distributed. It will invariably be found that in parts which are acutely painful a marked bluntness of the tactile preceptions can be detected tactile preceptions are uo doubt conveyed by a different set of fibres from those which convey the sense of pain." Yet it cannot be supposed that the same influences in functional activity can be different, any more than exactly opposite in the two cases.

If, then, pain is not the heightening of ordinary sensation, it is a perversion. The impressions which the healthy nerve conveys are correct; whereas, those of pain are vague, unreliable, often deceptive. We are frequently unable to obtain a correct idea in regard to the organ which it seems to affect. In certain neuralgic conditions, for example, its actual seat is wide apart from the apparent spot where it seems to be in force; and the actual cause, or the structure involved, may be overlooked. This is an affection of the excito-motory division of the nervous system, according to Marshall Hall's classification, which comprises the gray matter or ganglia of the spinal marrow, and the afferent and efferent nerve-fibres pertaining—all which are concerned in reflex actions, or those by which impressions are transmitted to a nerve-centre and reflected so as to produce muscular contraction without sensation or effect of will.

The most excruciating forms of pain, it will be found, have their origin in impairment of nutrition. Organic tumors afford a forcible illustration, producing during their growth a continuous pressure upon the nerve-trunks and their branches. Those pains may also be adduced which are attendant upon tonic contraction of the muscles. We find examples in acute pleuritis and peritonitis. Whatever the cause of these most intense of all acute pains, the friction and constant action incident to breathing, exert an important part in promoting them. An inflamed muscle that cannot be placed in a position of rest, but is compelled to maintain its ordinary func-

tional activity, will inevitably be the seat of extraordinary perturbation of nerve-function, a condition very different from mere exaltation of the normal nervous energy. Dr. Thomas Inman, the author of various scientific as well as profound literary publications, makes this deduction: "It seems therefore an inevitable conclusion that a dynamic perturbation going on in the non-nervous tissue is continued along the nerves themselves; and that the severity of the pains perceived by the conscious centers is porportionate to the tumultuousness, the want of co-ordination, and the waste with which force is endured in cramped muscle or whatever structure it may be in which pain has its source."

It may be considered as established, therefore, that pain is not exalted irritability or hyperæsthesia, but a sensation from disturbance of the nervous function in consequence of a lowering of the normal condition, which occasions an obstruction of the nervous communication and supply of nervous fluid. When this is complete, paralysis comes. It now devolves upon us to make a practical application of these facts to our theory of Rest in Conservative Surgery.

In the economy of nature the nervous organism which gives the body its vital supply is carefully protected by surrounding structure from exposure to friction or external pressure. The phrenic nerves, upon the integrity of which our life depends, after passing through the breast, traverse the diaphragm and give off their branches on the concave under-side of that muscle where they are completely shielded from compression during respiration. On the upper surface of the diaphragm where there is a repeated contact with the base of the lungs, it is easy to perceive that the filaments of the nerve would be constantly liable to pressure, and the action of the diaphragm itself dangerously complicated. The weight of the stomach, spleen and liver also operates to remove those organs from too close contiguity with the lower surface.

The great precision with which every muscle is supplied by its particular nerves enables us when we find a contracted muscle, to determine at once the nervous trunk and origin which occasions it. Dr. Erasmus Wilson remarks in his

Anatomy that we find the teres minor lying in contact with the infra-spinalis yet not receiving a branch from the supra-scapular nerve. The four muscles lying between the os hyoides and the lower jaw, usually considered as forming one group, are perceived, when taken in connection with their nerve-supply to be really distinct and separable. The mylo-hyoid and the anterior belly of the digastric receive their nerves from the mylo-hyoid branch of the third division of the fifth pair. This fact indicates unerringly the relation which exists between these muscles and the process of mastication. The genio-hyoideus and the genio-hyoglossus, in their turn, are supplied by the hypoglossal nerve, and of course are associated functionally with the movements of the tongue.

Several muscles receive two distinct nerves. The adductor magnus of the thigh receives filaments from the obdurator, and also from the great sciatic. This demonstrates a double association of function, that the abductor magnus operates both with the adductor muscles and with the muscles at the back of the thigh. I will give another example of the relation of nerve-structure to muscle and function. The omohyoideus has a branch from the hypoglossal nerve, and if we trace that branch upward it will be found to receive a branch from the pneumogastric; and the muscle also has filaments from the cervical plexus. Thus we may perceive a triple association of function; one in connection with the hypoglossal region of the movements of the tongue and aided by the os hyoides; another in concert with the pneumogastric nerve to assist in respiration, and the third, in association with the movements of the neck.

The nerve-supply to the body and to the individual muscles is maintained with great uniformity. Every muscle receives precisely its proportion of nervous fluid, and never deviates in function. The careful and studious practitioner is enabled to do his part skilfully, by means of his thorough knowledge of the relations which the nervous system sustain to the muscular, and in regard to growth, waste and repair. The familiar acquaintance with the anatomical conditions of diseased structure will aid both in diagnosis and the proper application of

rest as a therapeutic agency. Pain is a symptom of disorder; its relief is the first duty, and the ascertaining of its cause a matter essential to successful treatment. When it is severe at any point, the natural supposition is that there is an inflammation at the affected part. We all know, however, that pain may exist and be accompanied with redness and swelling, when there is no local inflammation. Heat and increase of temperature are the reliable indications of inflammatory action. It is easy to find out, by applying the hand to a swollen joint or tendon, whether there is inflammation and what is its true character.

The first surgical case to which I was ever called was characterised by heat, swelling and redness the entire length of the leg. The patient had been considered as having inflammatory rheumatism, and was suffering intensely. After having carefully manipulated the limb, I perceived a manifest increase of heat and tenderness over the knee, especially over the external condyle. The inflammatory action had seemed as great above and below as at those points; nevertheless, I ventured to give as my judgment, in the face of a household of friends assured to the contrary, that the trouble was not rheumatism, but abscess on the knee-joint. I would have been dismissed summarily, but the patient took my part. He even refused to sanction the calling of any one in counsel. He was determined, he said, to give the "young doctor" an opportunity to prove his opinion. The pain at the time was excruciating. I administered an anodyne and applied a poultice to the part, composed of a strong decoction of the roots of Baptisia, thickened with bran. I predicted a result that would sustain my diagnosis. The abscess burst upon the eighth day after and discharged properly. The knee healed rapidly.

Some time afterward, however, I was called again. There was a large puffy swelling covering the whole surface where the abscess had been; but there was no abnormal heat, redness or pain. I considered it as occasioned by an adventitious tissue, possibly composed of serous and synovial membrane, and gave my opinion that by means of proper bandaging and rest it would be absorbed. The friends, however, were posi-

itive in declaring the swelling an abscess, and demanding an operation. The patient was disposed this time to agree with them. I asked for a consultation with Dr. Eaton, an Eclectic ten miles away. He only knew my history of the case and agreed with the others. I was confounded, but persisted in my judgment. Dr. Eaton then declared to the friends that I had been successful in the matter thus far, and probably understood it better than any one else. He accordingly advised them to leave it entirely in my hands. I assumed the responsibility; promising, however, to recall him if unfavorable symptoms appeared.

This case was a forcible illustration of the inherent power in existing structures to repair their own lesions, if left at rest and permitted full operation. I put the man to bed, bandaging the limb from the toes to the knee, and applied a stimulating liniment every morning with vigorous friction; all the time requiring absolute rest. In two weeks the knee had returned to its natural dimensions and it become as strong and healthy as the other.

Since that time I have been an urgent advocate of physiological rest during the presence of pain and the processes of repair.

I submit another example: The case was one of accidental shooting. An entire charge of buck-shot had passed through the left foot, entering about the articulation of the scaphoid with the internal cuneiform line, passing along the foot posteriorly through the external malleolus and severing the internal plantar artery. The wound had been dressed by an old physician, but bled so profusely afterward that the family became alarmed and sent messengers in every direction for surgical aid. Four came at the summons. All but one declared amputation necessary. The fourth maintained that with rest and good care the foot could be saved, and convinced the others that it was worth the endeavor. They belonged to the Old School, and were very gentlemanly in their deportment during our consultation.

The patient, a young man, was placed on his back, the foot elevated and secured in position, and a solution of persul-

phate of iron, full strength, was injected to stop the hemorrhage. The wound was so large that I passed two fingers into it when removing the loose pieces of bone and other foreign substances. We went away to return in an hour. The hemorrhage had sensibly diminished and we decided to continue the same treatment. We assembled again the next morning and found the symptoms favorable and the bleeding stopped.

The question how to prevent gangrene was discussed. I proposed to wait till it had appeared. The dependence was on good treatment, good nursing, proper food and perfect rest. The pain which the patient suffered for a long time was very severe, as well as the swelling. At the end of nine months the foot and ankle had taken shape and were in excellent condition. He now walks without a halt. The moral is, that nature points to physiological rest for injuries and overtaxed energy. It is true in the animal and vegetable, as well as the human kingdom, and the result of the privation is death.

(B) MEDICINE, GENERAL AND SPECIAL.

MILBREY GREEN, M. D., *Chairman*;* J. A. MUNK, M. D., *Secretary*.

SANITARY HOUSE-DRAINAGE.

Address by MILBREY GREEN, M. D., Boston.

Every year Boards of Health and Health Officers throughout the country report a large number of cases of typhoid fever, diphtheria and other zymotic diseases traced directly to bad house-drainage. Many instances have been reported where, owing to faulty plumbing—neglect of proper trapping, or the use of imperfectly constructed or porous traps—the deadly miasma from sewers, and waste and soil pipes, has impregnated the air, food and drink of households, and infected the clothes, furniture, carpets, and even the walls, and swept away nearly entire families. We have seen that houses impregnated with the miasma from sewers and soil-pipes are more dangerous than those infected by small-pox, and more difficult to render safe.

Bad house-drainage is frequently the result of ignorance, cupidity and a mistaken sense of economy. There are many plumbers who have little or no knowledge of hydrostatics and mechanics, but are employed by builders equally ignorant, because they work cheap. Of the plumbers who thoroughly understand their business, some fail to do their work well because they take their contracts so low they can make no profit if they use first-class materials and employ skillful workmen. A large proportion of men who build houses to lease or sell care very little how the plumbing is done, provided their walls and ceilings are not stained by leakage from pipes and tanks, or their houses rendered uninhabitable by strong odors from water-closets and sewers. They give the plumbing work to the lowest bidders, and as they pay only

*In the absence of the Chairman, the Section was organised by the appointment of Dr. Albert Merrell, of Missouri, as Chairman, and Dr. J. A. Munk as Secretary

for cheap work they are quite sure to get it. Plumbers do not claim to be more honest than other mechanics, and cannot be expected to give better material and better work than they are paid to furnish. In order to meet competitive bidding they cipher close and economize in every possible way, and use as cheap material as the often loosely-drawn contract allows, and employ the cheapest workmen they can find. Under such circumstances competent plumbers neglect many precautions in properly trapping, and other details, which they know are essential to health, when they would have done differently had they been paid for first-class work. The same thing sometimes occurs in houses built by men for their own residence, where a mistaken sense of economy leads them to contract for cheap plumbing while they spend money freely for external and internal ornamentation.

Much of the evil resulting from the cupidity, dishonesty and ignorance of plumbers and builders might be abated by a proper regulation of house-drainage by law. In almost every city there are ordinances regulating the construction of buildings, prescribing the size of timber, thickness of walls, and other details, so that no unsafe buildings shall be constructed; and carpenters are obliged to conform to these regulations, or lay themselves liable to a fine. We hear no complaint of this being an unjust law, and no one can deny that a city has as much right to prescribe how the plumbing of a building shall be done as the carpenter-work. House-drainage, as well as the work of connecting houses with sewers and water-supplies, ought to be regulated by law. The danger from shabby buildings is often apparent to ordinary observers, but the evil results of poor plumbing and defective drainage are often unsuspected until sickness, and sometimes death, makes them manifest.

Massachusetts, in 1877, enacted a law authorizing Boards of Health "to prepare and enforce, in their respective cities, such regulations as they may deem necessary for the safety and health of the people with reference to house-drainage and its connection with public sewers, where such connection is made." This enactment was subject to acceptance by a

majority of the legal voters of the several cities of Massachusetts, present at a meeting called for the purpose of acting thereon. In 1881 this act was amended in regard to sewer-connection.

Under this Act the Board of Health of Cambridge, in 1881, adopted certain regulations in relation to the construction of house-drainage, embracing directions for materials to be used, grades, traps, ventilation, workmanship, etc.; and the city ordinances were amended in accordance with these regulations, and there has been no difficulty in enforcing them. Boston and two other cities in Massachusetts have followed the example of Cambridge. The Municipal Assembly of St. Louis, in January, 1880, passed an ordinance to regulate the construction of house-drains, and I have been informed by the Chairman of the Board of Health, and several prominent physicians there, that the ordinance has worked well. New York and a few other cities in various parts of the United States have lately enacted ordinances regulating plumbing, the construction of house-drainage, etc.

The last Annual Report of the Massachusetts State Board of Health, Lunacy and Charity contains some excellent suggestions in regard to house-drainage. They are the result of much study and research, and until something better is proposed much good will result if they are followed by builders throughout the country:

"(*a*) All drain-pipes inside the house should be of metal, and all joints of well-calked lead or solder. Metal is recommended in preference to stoneware, owing to the difficulty in keeping tight the joints of the latter. All connections between lead and iron should be by a calked brass nipple and solder. It is best to keep drain-pipes in sight, or at least of easy access. They should never be *hidden* under the ground. If needed below the basement or cellar floor, they should be placed in a trench lined with brick walls, with movable covers on the trench. It is a good plan to paint the pipes white, so that any slight leakage of gas may be seen readily; for such gas generally discolors the paint.

(*b*) Changes of direction in iron pipes should be made mostly by Y-branches, leaving an open hub, to be closed by a brass nipple calked in with a movable brass clearing-screw as

large as the drain, to be removed for inspection and cleaning. In straight reaches of fifty feet or more in length, these Y-branches and clearing-holes should be introduced at intervals of not over forty feet.

(*c*) No T-branches should be allowed, except in vertical pipes.

(*d*) All pipes should be put together by a series of straight lines, and with a general direction as straight as possible.

(*e*) All pipes should have a fall of not less than two per cent. of their length, where no special apparatus is provided for flushing. All drains should be kept free from deposit; and, if this cannot be effected without flushing, special apparatus should be applied for this purpose.

(*f*) A trap should be placed on the main drain outside the house-walls, made of glazed earthenware, with a vent-hole as large as the pipe directly above the trap, communicating with the open air. This should be made accessible for cleaning out, and a rain-spout had best be discharged into it or into the drain at some point above it. This trap should be near the house, and can be alongside the grease-tank, if convenient.

(*g*) Every separate stack of soil or waste pipe within the house should extend out through the roof, at least four inches in diameter: smaller pipes than this are liable to be choked with ice from condensation of steam in winter.

(*h*) Separate traps should be placed under all receptacles of drainage, as close to them as possible, and no other traps allowed to intervene between these and the outside or main trap described above (*f*). Each one of these separate traps should have an air-pipe of iron or lead connected just below the water-seal, as large as the waste-pipe, and either connecting at its upper end with the soil-pipe above all other branches, or passing through the roof independently, as found most convenient. Several traps can be served by the same vertical line of vent-pipe.

(*i*) No drain-pipe from any safe-pan under any tub, sink, bowl, or water-closet, should be connected below to the drain-system, but should discharge over an open sink or cellar-floor.

(*j*) No waste-pipe from an ice-chest or refrigerator should be connected with the drains.

(*k*) Rain-water leaders should not be used as soil or drain-pipes, nor should they be depended on to ventilate drains. If connected with the drains at all, care should be taken to so connect them below the water of some trap, otherwise supplied with water, unless their upper ends are remote from windows.

(*l*) A tank or small cistern should be provided in the upper part of the house, from which the kitchen-boiler should be supplied, together with the bowls and sinks; also any water-closets that happen to be close by. The drinking-water should not be drawn from this tank, but from a separate tap on the supply-pipe direct from the street main. The overflow of this tank should not be connected with any drain, but discharge as directed for safe drains above (*i*). It is common in mild climates to discharge such pipes through the house-wall into the open air; but this plan would be worthless in frosty climates.

(*m*) All water-closets should be supplied by a small tank directly above them, and not by valves attached to the closets themselves, nor by pipes branched from those from which drinking-water is drawn.

(*n*) Concentrate the fixtures used for drainage—such as water-closets, bowls, sinks, tubs, etc.—as nearly as possible in vertical groups, to avoid waste-pipes passing across under floors, which are rarely satisfactory.

(*o*) Never locate a fixture, especially a water-closet, in a dark corner where a good ventilation cannot be had. If outer air cannot be got, seek to draw off the foul air from the closet by a pipe leading up through the kitchen-fire flue to the chimney-top, built into the chimney for the purpose, at least four inches in diameter. Small pipes branched into the fire-flues for this purpose soon get choked with soot at their mouths, and become worthless, unless extending quite to the top of the chimney."

After securing as good house-drainage as possible, it is necessary to see that it is kept in order. Everyone knows that even the best-constructed houses need occasional repairs, as well as the heating apparatus and everything connected with them. No means have yet been found to render houses perfectly secure from sewer-gas, and only by vigilance in maintaining as good plumbing as possible can comparative safety be expected.

C. F. Wingate, an expert in sanitary engineering, says:

"It must always be remembered that no plumber's work, however complete it may be at first, can be relied upon to remain perfect. The best plumbing will not last forever, but needs attention. * * * *

"Leaks may occur to permit the admission of sewer-gas from drain-pipes due to defective castings; or to walls settling in houses built on made ground, or from the strain of the alter-

nate expansion and contraction from hot water, or even from the forcing of lead joints by the pressure of steam discharged from manufactories into public sewers.

"A no less serious evil is the corrosion of lead traps or lead waste-pipes, particularly into old houses which have unventilated drains. This may be caused by the action of sewer-gas, or from the use of certain popular disinfecting fluids. Lengths of pipe have been found completely honeycombed in this way. As such corrosions usually occur on the upper side of traps, or horizontal pipes, it is not easy to detect their presence, from the absence of leakage, and the only safeguard is to avoid carrying waste or soil pipes horizontally; also to extend their upper ends through the roof, and leave them open for ventilation. Lastly, to substitute iron pipes for lead wherever possible, which is now the general rule in all good plumbing practice.

"Corrosion sometimes occurs at the joints of lead pipes, contiguous to the line of solder, and is attributed to galvanic action created by the contact of the zinc and lead; but as these openings are apt to leak they are more liable to discovery. It is a good plan to overhaul all plumbing periodically—say every year or two—to guard against accidents.

"And here it should be remarked that *sewer-gas is not created in the sewers alone;* but every inch of waste-pipe in a house, even though used to convey nothing but soapy water or the waste of melted ice from a refrigerator, can, and commonly does, produce foul gases. The worst odors are from such sources, and they are certainly unwholesome."

The danger from defective house-drainage, where there are cesspools and privy-vaults, is scarcely less than where there are sewer-connections, and yet as a general rule, much less attention is given to it, especially in regard to trapping. A prominent physician, in one of our neighboring cities, writing of the condition of houses in that city, where cesspools are used, says:

"House-drains are seldomed either trapped or ventilated. The ordinary dwellings have no traps to their kitchen-sink waste-pipes. * * * * It is the usual custom to trap the soil-pipe with a half or full S bend, and then connect with this without separate traps, the waste-pipes of bath-tubs and wash-bowls on the same floor of the house." Late reports show that this state of affairs still exists to some extent, in every community.

A distinguished sanitary engineer, after speaking of the evils resulting from cesspools, said: "But cesspools, in the absence of sewers, become a necessity. Large numbers of our people are driven by the increase of population to live on quarter-acre lots, and even smaller ones, with their old privy-vaults, cesspools and wells for drinking-water within one or two rods of one another." This picture is true, not only of villages and small cities where there are no sewers, but also of sections of cities throughout the country where sewers have been constructed.

We know this to be the case among some of the finest residences of Cambridge, Roxbury, Dorchester and various districts of Boston, as well as among tenement-houses. Within a week a physician in Cambridge reported attending several members of one family where the sickness was produced by just such a condition of their premises as that above described—the privy-vault, cesspool and well all being in juxtaposition. The same physician reported a case of typhoid fever in a fine residence on one of the best streets of that city, where a cesspool and privy-vault were the cause of the disease. Many cases of this kind might be cited from the reports of physicians in all the cities mentioned, but as such experiences are common throughout the country it is unnecessary.

Before closing I wish to call attention to a condition of many city-houses that are left vacant every summer, where ordinary traps are used. The traps become dry and unsealed long before the summer is over; and the sewer-gas pervades the houses, infecting bedding, carpets, furniture, and sometimes the walls. This has frequently been the cause of sickness in families within a few weeks after their return from seashore or mountain resorts. One of the best safeguards against this evil is the Cudell trap, in which the pipe is closed by a ball in such a way that it cannot become unsealed, although the water in the trap may evaporate, when the pipe is left long unused. The Bower and Nicholas traps are also excellent.

In regard to the term "sewer-gas," about which there has been much dispute, I think the definition given by Dr. F. H.

Hamilton is a good one. He says: "What has been called 'sewer-gas' is composed of air, vapor, and gases in constantly-varying proportions, together with living germs—vegetable and animal—and minute particles of putrescent matter. In short, it is composed of whatever is sufficiently volatile or buoyant to float in the atmosphere, and in consequence of which buoyancy it is permitted to escape through the various sewer-outlets."

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*MEDICINE.**

By J. A. MUNK, M. D., Topeka, Kansas.

Medicine is, presumably, a science and an art. To perfect any system as extensive in design and scope as is embraced by medicine, requires time and labor. The facts necessary to build up a science are evolved slowly. It requires years of patient toil to gather and prove them. Hasty and superficial action in such work is worthless, since it accomplishes nothing. Facts alone, however, are not sufficient to give efficiency to science. To make knowledge serviceable, it must be skillfully handled. Science and art go hand in hand, and must ever be joined together to achieve success in any vocation. Facts furnish the material for the building, but skill molds them into symmetry and beauty.

In the science of medicine many facts have been discovered and systematically arranged, yet much more is necessary to complete it. Valuable information has been acquired in anatomy, physiology, chemistry, surgery and therapeutics, enough at least to entitle them respectively to the name of science; but while this is true of each, in a general sense, they nevertheless lack much of being complete. In no department of medicine is there more instability and uncertainty than in therapeutics. Its means and methods are constantly changing, so that what is in vogue during one decade is obsolete in the next; yet nowhere is accuracy and certainty in greater

*Introductory Address by the Secretary.

demand. That the diversity observed in the use of remedies is unfortunate is obvious. It is the cause of many extremes in medicine, and the origin of divers 'isms and 'pathies. Every such diversion has its pet dogma, which it carefully fosters and diligently promulgates. Allopathy, on the one hand, is wedded to its ancient rule of contraries, and Homœopathy, on the other hand, advocates the law of similars, while Eclecticism is opposed to both as extremes. Because either doctrine is true, it does not make the other untrue. There is virtue in each that needs only to be extracted.

Physicians of opposite schools naturally disagree on fundamental principles; but members of the same practice differ widely in the execution of details. No two physicians prescribe just alike. Often they are directly opposed in their methods of treatment, and yet appear to be equally successful. Because of such differences, a skepticism has been developed in the profession which doubts any certainty of drug-action, or benefit accruing from the use of drugs, but regards the practice of medicine only as affording an opportunity for the unscrupulous charlatan to ply successfully his trade of deception and fraud. It would not seem strange, under the circumstances, to meet an occasional skeptic; but when it becomes the rule rather than the exception, for physicians to doubt the virtue of drugs as remedial agents, the question of medication presents a serious aspect. Either extreme of believing too much or too little is wrong; and when such a position in one direction is abandoned, the natural tendency of the reaction is to fly to the opposite extreme. An extremist on any subject, should be careful how he forsakes his position for a new one, lest, by the change, he should fail to better his condition.

The tyro in medicine is apt to be credulous, and overrate the value of what he is taught. All that is told him he believes implicitly; and by the time that he is ready to put into practice what he has learned, he imagines that all that is necessary for him to acquire distinction is an opportunity to display his prowess. Only repeated failures and disappointments can convince him of the folly of his delusion; and he is fortunate indeed, if, after the recoil from the first shock, he

does not conclude that medicine is a humbug, and its practice a fraud. If, in the rebound, he succeeds in keeping his balance, he has learned a valuable lesson, and by counselling caution and prudence in the future, he is reasonably sure of success. The physician, be he never so learned in his profession, if he lacks judgment and misapplies his knowledge, can never become a successful practitioner. Indeed, many a man succeeds with comparatively little book-learning, who uses his little store with tact and judgment. There are men who, though profoundly learned and entertaining as writers and teachers, are yet failures in practice. The trinity of elements in a physician that are essential to success, are knowledge, judgment and experience. Any lack in either of these elements must curtail success.

Medicine, unfortunately, is not an exact science like mathematics, and is, therefore, not capable of like lucid demonstration. The solution of the problem depends upon so many contingencies, that it cannot be calculated with any degree of certainty. The body is subject to so many changes that no two cases ever occur exactly alike. For this reason no routine treatment can be successful, but the means used must be varied to suit the peculiarities of each individual case. A patient cannot be treated under contract by exact rules, as a mechanic will construct and guarantee a piece of work. In the very nature of things, it is impossible for a physician to work by any such method. The best that he can do is to look the case over, and, from the existing condition of the patient, form an estimate of the character of his disorder, and deduce an opinion of the probable issue, under a judicious course of treatment. To promise anything more is presumption, and can only be charged either to pure ignorance or a deliberate purpose to deceive. Some few things a physician can know, which at best is but a small fraction of all that the question involves. Under the existing circumstances, he is sometimes compelled, by policy, to say differently from what he knows, in order to cheer and sustain the patient, or to pacify the friends. This statement, however unpleasant it may seem, is not intended as an apology for deception, but is simply the

recognition and expression of a fact which is of daily occurrence. The physician, under the stress of circumstances, is sometimes compelled either to do this or worse—losing his patient in a double sense, and forfeiting the confidence of his friends. It is right to tell the truth, but not always necessary nor expedient to tell the whole truth.

The success of every physician hinges principally upon his knowledge of therapeutics, and the skilful use of remedies. Notwithstanding the different methods employed, and the variety of results obtained, it cannot be gainsaid that success depends upon such experimental and practical knowledge. The typical Allopathist believes that no good can be accomplished, except by the exhibition of heroic doses, while the high-potency Homœopathist declares that only by the use of infinitesimals is success in the healing art achieved. Although so radically different in their methods, they each, nevertheless, appear to succeed. To reconcile such differences, it is necessary to go back of the methods employed for the real cause of their seeming success. Nature is possessed of wonderful recuperative power, which medicine can either assist or obstruct. When it is admitted that on an average about ninety per cent. of all the sick will recover without the aid of medicine, it ought to be enough to take the conceit out of the boastful mediciner; and any practice which cannot show a higher per cent. of recoveries than the above, is no improvement on nature's unaided effort.

It is not so much the mission of the physician to save life in the abstract—prevent people from dying—as it is to mitigate suffering, and shorten the duration of disease. People generally so understand it; and when a patient calls the physician, it is usually not from a fear of death, but to ease his pain and to cure him in the shortest possible time. Since it has been ascertained that life and health are more dependent on vitality than upon drugs, and that health is often damaged and life endangered by excessive and foolish drugging, many physicians have discarded drugs, and treat their patients on the "expectant plan," giving but little medicine, but rather depending upon the recuperative powers of nature, and the use

of hygienic means and careful nursing for success. The study of physiology, and a better understanding of physiological action, naturally inclines to a passive policy in therapeutics, for by it is seen how wonderful are Nature's processes, and how adroitly she manages to re-adjust derangements of the organism ; and, therefore, men like Chambers and Flint advise but few remedies in the treatment of disease. The "expectant plan" of treatment is good as far as it goes, but it is not enough. Experience teaches that there is virtue in drugs, and that if properly used they are invaluable. The danger in the search for remedies, and the adoption of a plan of treatment, is that experiments are made with a view to establishing some particular hypothesis to which the alleged facts are forced to conform, instead of building up a theory from bare facts.

The system of practice known as "Specific Medication," has some excellent features, and commends itself to the profession for its directness and simplicity. It does not view disease as an entity—a hideous monster—that has taken up its abode in the body to torment it, but rather that it is the result of abnormal action by a deviation from the physiological or health standard, and aims at a restoration of the disturbed equilibrium. It seeks to occupy middle ground, and thus avoids the grossness of Allopathy, on the one hand, which does positive injury by over-dosing, and the dilettanteism of Homœopathy on the other, which sacrifices valuable lives by under-dosing and the loss of precious time. The value of this system can not be adequately estimated at the present time. While it contains some absurd things, as others see them, and is not free from error, yet its value cannot be questioned, It embodies true conservatism, which is the core of Eclecticism, and yet advocates substantial progress. Its direction is towards demonstrated facts and positive teaching, which are the pressing needs in medicine. It will no longer do to use remedies on the equivocal endorsement of "found valuable" or "said to be useful" of the past ; but a remedy, to be worthy of recognition, should give the same results, upon being tested in a large number of cases, in similar conditions, and under like circumstances. In the selection and use of remedies,

three considerations should have prominence, namely: palatability, small but appreciable doses, and direct action.

While these objects, perhaps, cannot be attained in every instance, an effort should at least be made to approach them as nearly as possible. Close study of the Materia Medica will be necessary to properly estimate the action and value of each drug; but since some definite information has already been obtained in that direction, more is possible. In pursuing such a course of procedure, it is both unsatisfactory and unwise to fall into the common error of prescribing a single remedy for every disease, which is the tendency of a routine-practice, or the equally fallacious custom of attempting to antagonise a disease with a multitude of remedies promiscuously mingled. Each agent should be studied with a view to its value in one or possibly two abnormal states, and be satisfied when that much is done. By attempting too much, nothing is accomplished. When the science of therapeutics is raised to such a plane of excellence can physicians boast of "specifics," and an eminently successful practice.

EARLY BRAIN AND PHYSICAL CULTURE.

By Alexander Wilder.

The province of education is not to create scholars, but rather to develop the faculties and capacity for the greatest usefulness. It is impossible, therefore, to regard too highly the importance of correct and enlightened views upon this subject. Virtue, beauty or excellence in an individual, as in a weapon or implement, consists in fitness for the ends of existence. Agesilaos, the Spartan King, being asked what things were most proper for boys to learn, replied: "Those which they ought to carry into practice when they become men."

Lykurgos bred two dogs from the same litter; one of which became a dainty and ravenous cur, the other, a quick-scented and active hound. Differences as broad as these may be established between children of one family by means of early

training. The beginning of the work is therefore most important, because when the child is young and tender, the impressions which it is desirable to fix permanently are then most easily made. "No evil propensity of the human heart is so powerful," says Seneca, "that it may not be subdued by discipline."

The true method of education follows the course of nature. It may commence long before the weaning of the infant. The child is not to be thwarted in any aspiration, or crippled in peculiar bent of mind, but should receive that very training which shall give to it its legitimate field of activity. There ought to be no discord between the perception native in children and the treatment which they habitually receive. The sense of right is very keen, so far as they are themselves concerned; they are quick to detect injustice and to resent it. This is the point to begin at, and it is vitally important to be strict in regard to it. The sentiment of justice to others belongs to a later period, and the endeavor to develop it prematurely is like hurrying the immature bud to its blossoming. They should be taught to be truthful and sincere; but any unnatural forcing process, as Dickens has illustrated in the example of the contributions which the Jellaby children were required to make for foreign missions, generally blights the very qualities and dispositions which it was intended to establish as settled rules of action. "The best way to train the young," says Plato, "is to train yourself at the same time; not to be continually admonishing them, but always carrying out your own principles into practice."

The oldest of our faculties, the first and last that appears in our term of existence on earth, is the imagination. It is an antenna of the Supreme Reason. Insight, understanding and will are co-ordinate with it. All the play of the child is suggested by this faculty, and is an endeavor to understand the drama of life. The soul reaching forth from its hidden abiding-place into Time is seeking to discern the nature of the earthly career upon which it has entered. All art, all our knowledge, begins with imagination. The effort to compress this faculty as if into Chinese shoes, and conventional swaddling-bands, is

a crippling operation, if not murderous outright. The little child demands stories and exercises its wit about their curious particulars, trying to embrace them in its consciousness as something which it is actually recalling to memory. The poorest tale is rich to the little listener. The growing child craves a similar literature, and will eagerly fly to it from the austere lessons of the school-room. It is the attempt of nature to assert her own dominion. The child must speak, understand, and think as a child.

Many of our modern school-methods are to be deplored. I have a perfect aversion toward the cramming process which seems to be their chief characteristic. The branches of science which are prescribed in the curriculum are often too many at a time, as well as unsuitable for certain of the pupils. That which is committed to memory under these conditions, a great deal of it, is seldom of any considerable utility. It is not received into the thought and so implanted in the mind and assimilated. More commonly the pupil forgets it outright, as we naturally drop whatever is disagreeable out of our conscious memory. It is generally fortunate to do this. A mental dyspepsia is very liable to occur under the teaching processes now in vogue, and is as earnestly to be shunned as a bodily indigestion. Each is pernicious and opens the way for what is worse. It is a pertinent question at the present time, how these unwholesome influences can best be avoided. A child is better off unborn than untaught, but the end of all proper instruction is to develop and make perfect.

It appears conclusive, that the right curriculum will correspond with the order of the faculties and their period of development. It will provide duly for every form and variety of capacity. In the first stage it will be principally restricted to the faculty of observation; in the next, it will involve more or less of scientific discipline.

"Every thing relating to arithmetic and geometry," says Plato, meaning observation and generalising, "and all the previous instruction which the young should receive before they learn the technic of logical reasoning, ought to be set before them while they are children, and after such a method of

teaching that they may learn without any sense of being compelled. A free man ought to acquire no kind of learning while he is under conditions of bondage; the soul can tolerate no compulsory discipline. Do not force them to their learning; but train them up by amusements, in order that you may be the better able to discern the bent of each one's genius. Afterward, those studies which they pursued miscellaneously during their early life, should be brought before them in one view, in order that they may see the connection of the whole with each, and with the nature of real being. This is the only kind of instruction which will abide permanently."

In regard to brain-culture, as teaching is sometimes denominated, it is proper for me, in justice to myself, to state that I am not one of those thinkers who consider the brain as essentially the mind, and the bodily structure as the individual. Yet, for what I really think them to be, I would desire the best care to be taken of them. It is hardly a correct use of language, however, to designate the teaching of children as culture of the brain in any important respect, so long as that instruction relates to objects and their arrangement. It is a training of the perceptive and scientific faculties rather than an employment of cerebration and the higher intellect. Indeed, the modern methods are radically at fault by reason of their subordinating of the nobler to the lower faculties, and so making the brain, with its lofty powers, a minister to the sensuous and passional nature. The vehicle is esteemed as belonging in advance of the propelling energy. It is a vivid illustration of this reversing of the true order, that pecuniary wealth with the power and sensuous delights which it confers, is made the chief aim and good of life, and every nobler end is held by the many in low esteem. Mental habits are also shaped artificially after the manner analogous to the Aztec or Flathead Indian establishing the shape of his children's skulls.

Let us, however, waive any such nice distinction of terms and consider brain-culture as including all psychophrenic discipline, and the cultivation of the observing and scientific faculties. It is not the head, with its auxiliaries, however—the cerebro-spinal system—that altogether affords the mental

powers their support and enables them to act. That organism is itself dependent upon the blood for its vitalisation, every moment of time, and flags upon the instant when the supply is withheld or obstructed. Every little mass of nerve-matter of which the brain and its associate ganglia are composed, is arranged in clusters around the arterial extremities and branchlets, receiving by their agency its nourishment and energy from the blood and the nerve-aura which is imparted by the blood. The arteries themselves were originally produced and are sustained from that other great nervous system that has its beginning and centre at the phrenic and epigastric region of the body. Whatever task or functional action is executed by the brain is accompanied by an immediate draft upon this primitive nervous system for the requisite vital energy; and whenever fatigue or any lesion affects the encephalic organism, this all-pervading tissue is required to sustain the loss and injury and repair them. For this reason the blood flows more readily to the head in any excitement, and any diversion of the current arrests or paralyses brain-action. The origin and focal point of the ganglionic system being in the intestinal structure, the health and vigor of that structure are essential to the maintenance of all cerebral activity.

Mental and physical culture are therefore dependent directly upon the condition of the vital and nutritive organs. Henry Ward Beecher declares that an individual with a dyspeptic stomach cannot be a good Christian. It is very certain that he cannot be a clear thinker nor a proficient scholar. A stomach laboring with food which it cannot properly dissolve, will hardly be able to derive enargy enough by its means to sustain the brain in the process of elaborating the nicer, profounder, more elaborate subtilties. The cause of trouble may be that the stomach had been debilitated from previous fatigue, or that the food was innutritious, unwholesome, or in excess. The event will be a starving, all the same. The energy which should be acquired in the digestion is, in a great degree, wasted in disposing of the mischievous burden, and the allotment for other uses of the body is accordingly insufficient. A starved

brain will not work properly. When the body, or any part of it is fatigued or exhausted, from whatever cause, the stomach participates in the debility, and the brain is in consequence likewise weary and enfeebled.

There ought great stress to be laid upon this subject. Fatigue is the worm that gnaws at the core, deteriorating the health, and finally imperilling and destroying the life. We do not contract disease except when our physical integrity has been impinged. The integrity of the body is its health, its wholeness. Fatigue is a result of muscular or mental exertion, or of exhaustion by exposure to heat, cold, privation or other malefic influence. The stomach suffers from inanition and from food which it cannot properly digest; and the brain is impaired in turn, both from overwork and from failure, through the impotency of the stomach, to receive a normal supply of vital energy.

The Bishops Ambrose, Augustin and Athanasius, were the most influential of all the Fathers of the Christian Church, in impressing their individuality and their peculiar tenets upon their associates, and those who came after them. The doctrines of the Trinity, total depravity and ecclesiastical supremacy became the received dogmas of the Catholic Church through their stalwart championship. Much of their influence must be ascribed to their high health and superior vigor of body. It was so likewise with the philosophers. Pythagoras was expert in boxing, Plato was a successful wrestler, Sokrates was unsurpassed for ability to endure cold and privation; and Kleanthes, the author of the sublime Hymn, was also distinguished for proficiency in athletic exercises, and worked by night as a common laborer, in order to be able in the daytime to attend the lectures of Zeno. Indeed, it is by no means improbable that his robust strength enabled him, in a very considerable degree, to bring about the ascendency which the Stoic Philosophy gained over the more spiritual Academy. The men who led the American Revolution from its inception till the establisment of the new nation, were generally strong in body as well as keen in understanding; and the brawn of the little Continental Army was produced and hardened for use in

the ploughed fields and rural forests of New England, the Middle States and Virginia. The indigestion of the first Napoleon, and the gout of Charles V., of Germany, each in its turn, changed the course of events in the European world. Much as it has been fashionable to decry physical vigor as being inferior to mental excellence, the sound body and a high condition of health are essential for the greatest achievement.

I am impelled at this point in the argument, to speak in behalf of another and more vital of our endowments. We forget our essential selfhood, that which is the subjective personality, when we neglect to consider that of which it consists, the Will. The education, the training, the culture, which does not maintain the will in its integrity, unimpaired, is faulty and pernicious. The energy to do, to accomplish, to overcome obstacles, is of and from it. The health of the body, the ability to live and master unwholesome and deadly influences, and to achieve a true fitness and virtue, are its manifestations. Many individuals recover from dangerous maladies by virtue of their energy of will. We have heard talk of breaking the will of the child, as preliminary to his proper discipline ; to break the will, is to unman, to dehumanise. It may be good training for wild beasts, but it is the transforming of human beings into short-lived weaklings, unable to decide for themselves, void of moral responsibilty, and facile for slavery. "It is the right and healthy state of every man," says Ralph Waldo Emerson, "when he is free to do that which is constitutional for him to do."

Why in the "Lord's Prayer" is the clause desiring that the will of God be done—be the outcome and fruitage of everything—on the earth as it is in heaven, except that in that will is the all of perfect goodness, that which is best in itself, and best for all? By the same logic, let us give due heed and respect to human will as the potency which enables man to be like divinity.

In schools and family discipline, while endeavoring to teach its proper directing and field of action, its integrity should be guarded as we would guard the very life itself.

The discourse of Plutarch, upon the *Training of Children*,

is as seasonable now as when it was originally prepared. He never hesitates to talk common sense. He always speaks and writes on the human side of his subject, and we therefore understand him better. He begins his treatise with the prenatal period of life. The children of an unworthy father or mother, he declares, are blemished in their birth, and liable to be pursued as long as they live, with the opprobrium of the early history. It gives a man a good stock of confidence to be well born. Diophantos, the young son of the great Themistokles, used to boast that whatever was pleasing to him was esteemed by all the people of Athens. "What I like," says he, "my mother likes; what she likes, my father likes; and what he likes, all the Athenians like."

Nature struggles to free our constitutions from the effects of our vices and follies, but with indifferent success. The virtuous tendencies are transmitted by parentage, we are assured, even to the thousandth generation; nevertheless, the iniquitous propensities are certain also to continue to the third and fourth. Much of the insane diathesis, perverted faculty, deficient intelligence, imperfect physical sense, stunted or repulsive form of body and vicious predisposition which we observe in society, should be set down as the inheritance from a drunken ancestry. Diogenes, the cynic, once reproached a crack-brained and half-witted stripling: "Surely, young man, when thy existence began thy father was very drunk."

It is certain that the conditions attending the commencement of physical life are essentials of culture. To be weak is to be miserable, yet the best beginning will not suffice, except the discipline is also good. The richest soil will be unproductive if it is not properly treated, while a poorer soil will be prolific and bring its fruit to maturity, if labor is judiciously bestowed upon it. A person of strong body will grow weak and distempered by indolence, delicate usage and vicious habits; yet where is the man of a natural conformation ever so faulty, who cannot render himself far more robust and vigorous, if he will only give himself to exercises of activity and strength? So true is this, that many of our longer-lived individuals began with a physical constitution apparently

frail, and easily overcome ; nevertheless, the drawback always exists with them, that they are carrying a heavy weight through their whole term of life, which checks their endeavor on every hand, an generally compels them to take a secondary place in the enterprises of the world.

Nature has assigned to the child its lawful place of sustenance at the breast of its mother. It should be fed during infancy from the same source whence it derived its earlier nutrition. The physical, moral and emotional conditions of a woman, permeate and enliven her milk as well as her blood. Childhood is a tender thing and easily wrought into any shape. Plutarch has remarked : "If habit is a second birth, as another great man declares, whose child is that which has been fed for months, from the milk and life of a stranger ?" "Hyrcanian tigers gave thee suck," says Dido to Æneas : *Hyrcanæque admorunt ubera tigres.*

Education, likewise, has begun at this period. We often find that the coarse and incorrect speech, the evil manners, the foolish and corrupt notions by which many are blemished, were acquired in the most tender season of life. They result often from the unworthy associates that many parents employ, or permit to be about their children.

A good memory should be assiduously cultivated in the young from the very first. It is essential to exalted moral and spiritual as well as mental development. Like the muscular and other organic tissues, it becomes stronger in proportion to its frequent exercise, due regard being had to normal intervals of rest. Habit really is but memory impressed on the soul and physical organism, in such a manner that the sense of novelty which we often denominate consciousness, is not vividly aroused.

I do not, however, regard child-prodigies of memory, or indeed of any other excellence, as wholesome manifestations. Such precocity is in about the same category with any other evolution of adult conditions during the infantile period of life. Child-poets, child-musicians, and child-saints are analogous to fruit that has ripened prematurely. A worm may be in it, some abnormality or sirocco may have hastened it,

but it is very sure to be a windfall or a blight. Such children will generally pine away, die young, or degenerate in their adolescence into very ordinary sickly creatures. This period is not designed in the order of nature for great proficiency in intellectual pursuits of the higher character. All the nutritive functions and processes of growth are more rapid and vigorous than in mature life, and the same thing is true in regard to the energies which actuate them. The accumulation of energy in the nervous system, impels the child to employ itself in some form of muscular effort to relieve itself from the undue tension. It resorts to play or some new exploration for this purpose.

Nevertheless, the organism is still too tender to sustain any long continuance in physical or mental effort. This is especially true in regard to study. The nervous tissues soon weary, and the growing process is disturbed. The intellectual development is more or less warped or arrested; and, very likely, the physical health is more or less impaired.

Indeed, it is more wholesome for children to be noisy, boisterous, and even what many consider naughty or a little wicked. The function of the child is to grow, to become strong and robust. The objects of our existence in this world require the intermediation of a sound and healthy bodily organism for their successful accomplishment. If we would have a massive and beautiful superstructure, there must be a broad and deep foundation; and that which in highest in rank in organic existence can reach its proper eminence, only by the perfecting of the lowest in its own legitimate sphere. In the training of the child the highest, best-balanced, and largest-continued action of the mind can be secured only by due care for the health of the physical structure. The foundation of a vigorous old age is a good constitution of the body in childhood. It is necessary to keep in good order, and to govern ourselves by rules of temperance in early life as the best provision which can be made for later years. The strength, too, must be husbanded, so as to be able for study. By temperance, I understand the Pythagorean virtue: "nothing in excess."

I sometimes feel it to be unfortunate that the school and the schoolmaster are so essential in our modern social life. There is something unnatural about the matter, something repugnant to our better intuitions. It comes short of fulfilling what is required in a proper education. The animal instinct is quickened and the lower faculties often seem to be trained to perform, or rather supersede, the function of the higher. Indeed, it often seems as though more attention was paid to the handling of the money set apart for educational purposes than to the education itself, and its cost to the pupils in that which constitutes fitness for the end of life. Thus, health is too often undermined by the amount of labor imposed upon them, and the encroachment upon the hours of sleep and recreation. The sickliness, nervous deterioration, and general lack of stamina which appear to characterise so much of our American life, bear a very close relation to the undue number of hours, the night-study, the excessive cramming of lessons incident to the curriculum, the pernicious competitions, the neglect of proper hygiene—in short, unnatural stimulation and excitement, with insufficient rest. Whether school-houses or dwellings are ever often supplied with a salubrious atmosphere is a matter that ought to be thoroughly investigated. It is certainly unwholesome and unphysiological to group hundreds of individuals, children especially, in close quarters for so large a part of each day. They are not only poisoned by the devitalised air, and false safeguards which have been compulsorily established by school and medical officials, but are certain to contaminate each other in other ways. The little which is known of animal magnetism, as well as of sanitary matters, affords conclusive demonstration, that our careful attention is required to this department of the subject.

The curriculum for a boy in ancient Persia consisted entirely of physical culture for the first seven years; then of riding and archery for the next seven; and afterward of discipline in knowledge, justice, temperance and moral qualities. The wisdom-religion of the Persian proscribed all falsehood as impiety toward the Deity: Mithras was revered as the God of

Truth, and Ahriman denounced as the Liar and father of lying from the beginning. Their course of training would make our "coming race" better, nobler and more robust. "There are many things," says Xenophon, "which bear witness to the spare diet used among the Persians, and the carrying of it off by exercise; for it is even yet regarded by them as unbecoming to be seen either to spit, or blow the nose, or any such matter. Then things could not possibly be so, unless they used a very temperate diet, and spent the moisture by exercise, making it pass from the body in some other way."

I would also extend the privileges, rights and benefits of mental and physical culture to girls. I am seriously of opinion that our boys and girls are unlike from diversity in training, rather than from anything in nature. Granted that I am extreme in this sentiment, it is a least certain that there is much actual truth in it. A sickly girl is a reproach to human nature. In the order of the universe, in the harmony of creation, in vital energy, and the power of endurance which transcends the more extraordinary physical efforts at which males excel, in the length of life itself, the female of every race is superior to the other sex. It is a fact, therefore, that she needs as much exercise and variety of motion, and should be as noisy and uproarious. The animal tribes enjoy this divine permission and are vigorous because of it; but human beings are subjected to conventionalities which are against nature, and accordingly they so often set aside the imperative conditions of robust health, and a useful and happy career in life.

Little can be said wisely in favor of walking, gymnastics, or any other form of exertion which is employed for the mere sake of physical exercise. It is a tedious, wearisome, torturous imposition, having little in it of wholesome occupation. There should be a collateral impulse, something enjoyable of itself, to make these things means of proper physical culture. Nature does her best work by the agency of inclination. The love of play should have its rightful place at the front. Children generally thrive best under what we would somewhat paradoxically term a salutary, watchful neglect. Away with

cramped, artificial manners, that one may breathe freely and profoundly, move unfettered, and enjoy without stint. Let a laugh, a shout, and a romp be fashionable and be accounted proper and becoming. The world may not be comprised in a ground-plat, or an oak planted in a flower-pot.

Tha training and education of children during the formative period will be very certain to continue their influence and effects all through mature life. The most active and successful religious propagandists boast that if they can have the child during the first ten years, they are certain of him for life. The tale of *John Inglesant* was evidently written to illustrate this. What little I have learned from death-beds certainly appears to warrant this assertion. The old remember their childhood longest, and often repeat in their conduct, thoughts and sentiments what they were at that time in life. The adult period, with its experiences and ambitions, has frequently seemed to disguise the real individual rather than to change him radically.

The course of training, and especially the educational curriculum, should correspond with the arrangement of their mental organism and faculties, and the process of development. It is the period of life in which to become familiar with external facts, to comprehend their relations and to establish habits. It is, therefore, the duty of the educator to direct all endeavors in accordance with these facts. It will readily be perceived to be the natural order, and that training, instruction, and the unfolding of the powers, thus go on simultaneously and in harmony. As the senses are prior in evolution and function, their manifestations of pleasure and pain, love and dislike, first demand attention. Close upon them is the development of the understanding, the "geometric faculty" as the ancients have denominated it, which has the twofold office of shaping the course of the emotional nature and of acting upon its observations, so as to form the habit of generalisation. It determines the conditions of separate facts which have come within the apprehension, and then classifies them by the synthetic process. All scientific education as distinguished from philosophic, is included within these operations.

I have little partiality or even patience with the common methods of our modern primary and secondary schools. They often seem to me to impart but the mere effigy of learning. They are to a superlative degree a warfare against common sense. It is not a very high attainment to be able to spell and pronounce correctly, or even to compute numbers and read books. The learned pig can put letters together into words, and a cat will reckon up the number of her kittens. This sort of cramming, which makes the pupil the mimetic reproduction of teachers, is an evil which cannot be denounced too strongly. Academic instruction is no material improvement, but an extension of the pernicious methods. Routine attendance at a professional college, and closed-door examinations, written, not oral, conclude the curriculum, in which the fees seem to constitute the chief concern. Medical schools are no better, but frequently worse in these respects than the literary or scientific institutions. It is persistence in these methods which has emasculated the American mind, subordinating American thought, American scientific knowledge, and American opinion to European masters, and which is now steadily extinguishing the old American enthusiasm for freedom, and making our people the dupes and underlings of politicians and the men in power. The men who achieved American independence were not so taught or trained. To this day English writers treat us as half-taught provincials, and the publishers of a *Cyclopædia* now in press in Edinburgh and most largely sold in the United States, magisterially exclude due mention of invention, discovery and scientific views originating here.

The aim of fitness should inspire our methods. There is one law in this matter in regard to sex, instruction and employment. Justice is the doing of the work which one is fitted to do, doing it as it should be done, and abstaining from that for which one is not fitted. The educational curriculum, therefore, should correspond with the faculties and their order of development. Study in due moderation is in every way beneficial, and will render most pupils scholarly; but excess is very sure to overpower and discourage them. Many of the

dull children in the school-room were not such naturally, but were made so by the inaptitude produced from unsuitable lessons and the resulting paralysis of the ambition to excel. Sagacious teachers have not unfrequently made good scholars of youths that had been thus mistreated. The girl as well as the boy should be cared for. It is the right, the province, the duty of each alike to eat the fruit of the tree of knowledge of good and evil, and so to become as gods in stable intelligence and true liberty of action. Plutarch, in the treatise which has been cited, has given the following summary as to the result of proper culture: "To worship the gods, to honor our parents, to yield due respect to older persons, to be submissive to the laws, to obey our governors, to use sobriety toward our wives, to be affectionate to our children, and not to treat servants and inferiors with insolence; and, more than these, not to be overjoyed in prosperity, nor too much dejected in adversity, not to be disorderly in pleasures, nor transported with brutish rage and fury when angry."

The real merit of early culture, mental and physical, consists in the rightness of the end and the sagacity with which it is promoted. In this category I accept the postulates of a recent author, "that a consequence of the violation of the natural law produced by ignorance of the law, is the state of society exhibited in the dividual category; that death before old age is abnormal; that sickness and disease are abnormal, and so are all the social inconveniences arising from wrong opinions, vicious habits and dishonest and criminal acts of whatever nature." The sickly and the vicious are alike blotches on the surface of society.

It should be the aim and endeavor of the educator, the physician and the publicist, in whatever capacity, to eliminate all such abnormalties. It is for such an end, to put a stop to what is wrong, and to establish permanently that which is as it should be, that the early tutorage and discipline of the young should be most careful, most diligent and efficient. Hygiene and lessons should go hand in hand. The entire system of faculties should be exercised, so that the body be whole and pure, and the mind in perfect integrity.

SUSPENDED ANIMATION AND DEATH;

THE MEANS WHEREBY WE MAY DISTINGUISH BETWEEN THEM.

By ROBERT A. REID, M. D., Boston, Mass.

A few months since a clergyman, a warm personal friend, made a rather unusual request of me. His daughter had died a few days before, after a lingering and painful illness, dating back to an attack of acute rheumatism complicated with endocarditis, and resulting in a badly-damaged heart. The mother, herself a delicate person, and worn by constant and untiring devotion to the sick one, had spoken of persons being buried before life was extinct; and in order that there might be no possibility of such painful doubts being entertained afterward, he asked me to come and open the brachial artery.

Within a year there died a wealthy stock-broker of this city. In his will, made sixteen years before, he bequeathed a considerable sum of money to his physician, on condition that he sever his—the testator's—head from the body before burial. This however was not done, inasmuch as the will was not read till after the body had been interred.

These two instances but illustrate the wide-spread fear that exists, of being buried alive. The recorded cases, incontestably proved where the living have been buried are not very many in this country; and yet, beyond doubt, more or less such cases occur. In Europe, however, especially in those countries where the law requires speedy interment after death, many, very many, have been noted. Two have come within my own knowledge. The first occurred some years since in the vicinity of my old home. A man died, as was supposed, and was buried. After a time the widow, intending to return to her father's home, caused the body to be exhumed for removal. On opening the coffin the horrible fact was revealed that the unfortunate man had revived, and turning his head had gnawed and lacerated his right shoulder, indicating the horror and torture of his situation. In the second case a lady of wealth was buried with a valuable diamond upon her finger. The following night the sexton, lured by the costly jewel,

entered the vault where the body had been placed, and removing the coffin lid attempted to remove the ring. This he was unable to do owing to a swollen condition of the finger. Procuring a small saw he proceeded to cut the finger off; when, to his horror, as the saw began to cut, the lady uttered an exclamation of pain and sat up. She lived for many years after and became the mother of two children.

The tragic interest of such an event and its easy adaptability to their purpose has made its occurrence a frequent incident in the plot of the poet, the novelist, and the dramatist. What calamity could equal in horror that which would overtake one, who, conscious of what was going on around him, unable to make known the fact that he lived and realised that the loving care and ministering hands of relatives and friends were destroying all hope of escape, were obstructing all means of resuscitation, and irrevocably sealing his doom? Or who can consider unmoved the torture, mental and physical, which would seize upon one who should wake from unconsciousness within the narrow bounds of a coffin, or the walls of a tomb? Touching the first of these two conditions, Gandolfi, an eminent writer on forensic medicine, says that without doubt, in some rare instances "persons supposed to be dead, may be the witnesses, the mute and fear-stricken witnesses, of their own funeral; they may know perfectly well that they are going to be put into coffins, and thence into the earth, and yet be powerless, alive as they are, to avert the awful catastrophe." The following well-authenticated case is related: A German, schullehrer, (schoolmaster) had been pronounced dead by a physician. The funeral was fixed for a certain day, but as a sister who lived at a distance had not arrived, it was postponed. The "deceased," in his winding-sheet, and unable to move and apparently unable to breathe, heard with joy of this delay, and vainly tried to open his eyes or in some way apprise them of the fact that he still lived. At length the sister arrived, and being ushered into the room where he lay, burst into a paroxysm of tears and seizing his hand reproached him passionately for having died without one word of farewell. She took his head between her hands and

wildly called upon him to speak once more. The eyelids were seen to quiver; the eyes opened, and he was rescued. This is simply the story as related by the man himself. Gandolfi asserts that many such cases have been recorded in Europe, at one time and another, and most of them have been proved and authenticated.

Apparent death may result from natural causes, from disease, or from the action of drugs. Suspended animation, or technically, asphyxia without pulse, is the term applied to a state or condition wherein there is a complete suspension of objective signs in an organised living body, but there is not a total cessation of all vital action. In many cases, comparatively, the graphically-recalled thoughts of the victims prove that the functions of the cerebrum or thought-centres, were stimulated by fresh blood, and in no case is it believed that the circulation is completely stopped. Hibernation, or the condition of torpor in which certain animals and reptiles pass the winter-months, is probably the most conspicuous and common example of suspended animation, and one which has been most carefully studied in all its details. In a retired spot, a crevice among the rocks, a cave perhaps, the animal reposes. Respiration, at first apparent, becomes slower, and only manifest after ever-increasing intervals, and at length cannot be detected at all; the heart-beat is slowly and still more slowly performed, till it too disappears beyond the recognition of all, save the most practiced ear; the temperature sinks considerably below the normal, and the state of hibernation is complete. A perfect case of suspended animation, but not death. If the circulation should cease it would be a case of death, not apparent but actual; for it is well known that after only a comparatively brief period of non-circulation, animation cannot be recalled. Sufficient oxygen may pass through the skin to aerate the blood during hibernation; for while the capillary circulation continues, even though the heart no longer beats, ganglionic death has not occurred, and the possibility of resuscitation remains. Syncope is suspended animation, often with little or no change in the circulation, while sleep is another and the most common example of it,

and after extreme exhaustion simulates death, and indeed sometimes imperceptibly passes into it. How common the comparison :

> "How wonderful is Death,
> Death and his brother *Sleep* !"

Continued sleep is the synonym of death. "He giveth his beloved *sleep*." Other examples of suspended animation are catalepsy, hypnotism, lethargy, and a certain condition of the drowning, together with profound narcotism, and anæsthesia. The difference between death and a state of trance—or *Todt* and *Scheintodt* as the Germans express it—has never been quite clearly understood by the general public, and the physician is sometimes asked to explain the cause of this *apparent* death, or to indicate or institute the tests whereby it may be distinguished from actual death ; for the distinction between the two may sometimes be masked, and the two conditions may so closely resemble each other as to demand the closest and most intelligent professional scrutiny.

The story of the Indian,* who survived a burial of more than a month, whether it be true or not, is historical, and many are the cases which might be cited to prove that suspended animation may so counterfeit death as to pass undetected. Some years ago, during an epidemic of variola in Toronto, Canada, a man died, as was supposed, of that disease. He was encoffined, and was being lowered into the grave, when he revived and called out. He was removed to the pest-house and made a good recovery. In these days, when land is dear, and burial-rights are held less sacred than the rights of builders and contractors, coffins have been opened by the pickaxe more than once, in the act of converting cemeteries into streets and building-sites. Here a grave has been opened whose inmate has turned in its shroud ; there a corpse clutching its hair in a strained and unnatural position ; dead men and women lying in their graves as they never lie in a Christian land at the time of burial. The presumption is that these were premature burials.

* BRAID : *On Trance*. An account given by Sir Claude Wade of a Fakir, buried alive during a catalepsy artificially produced, and resuscitated six weeks afterward, in presence of the writer, the Rajah Runjeet Singh and others, at Lahore, in 1837.

In 1879 a young girl died, as was believed, in Piedmont, on the eve of her wedding day. Heart-disease, on which is laid the responsibility of many sudden deaths, no doubt often from other causes, was assigned as the cause, and it was supposed that her place in society would "know her no more forever." As the earth fell with a dull thud on the coffin in the grave, strange noises were heard proceeding from it, and the susperstitious grave-diggers fled, while the mourners fell on their knees and began to pray. But the stout-hearted bridegroom insisted that the coffin should be opened. It was done, but too late; the girl was found in an attitude of horror and pain impossible to describe; her eyes wide open; her teeth clinched; her hand clutching her hair, but life was extinct.

Cardinal Espinosa, being dismissed from office as Minister to Philip II., of Spain, fell to the ground as if dead. It was decided that the unfortunate man should be embalmed, and in the midst of this process he awoke and struggled with the operator, but too late; the wounds which he had received were mortal.

In the *St. Apostolen Kirke* (Apostle's Church), in Cologne, I saw a picture which commemorates the rescue from the tomb, of a wife of a celebrated knight. She had been attacked by the plague which was then raging, and having fallen into a deathlike swoon or trance, was interred in the church. She was awakened from her trance by a thievish grave-digger, in his attempts to abstract her ring, and returned to the house of her husband, where she lived for many years in perfect health.

There are other cases more horrible still, which are, if it be possible, twofold burials, in which one person is supposed to be buried, but really two lives are sacrificed. An Italian lady "died" during the eighth month of pregnancy, her husband being absent at the time. On his return the day following the funeral, he caused the tomb to be opened, that he might gaze once more on the face of his wife. She was indeed dead, but death had taken place in the grave. A child struggling into existence met the gaze of the afflicted man. It was rescued, and lived to attain manhood and political and military distinction.

From the same country comes the horrible narrative of a poor woman who died just before confinement. Being of the poorest of the poor she was buried uncoffined. A week later the grave was opened to admit another, when the woman was found to have "moved in the grave." Her eyes were staring frightfully; she had tried to bite the bands with which her wrists were bound together. But the bands of her legs were rent asunder, and there in the dust lay a dead child.

It is needless to prolong further the list of examples. The existence of a state of suspended animation or trance, so closely resembling death as to sometimes pass for it, seems to be proved, and must be acknowledged.

Few question the possibility of such a state. The question is, how is it to be distinguished from death, actual and absolute? A more vital or important question could hardly arise. It concerns communities and individuals; it is of vital interest to you and to me. If there is a chance of premature burial, be it ever so remote, we want to know it, and still more, the means by which it may be obviated. It is of interest to every one, both as it concerns his own body, and in a twofold degree, as it relates to those near and dear to him. Believing in the occurrence, not to take exhaustive precautions to guard himself from such a dire calamity would be, in the individual, an act of negligence; not to preserve his wife and children, aye, and the community at large, from the danger of such a double death, would be, in the citizen, a criminal omission. Death may be defined as the distinctive cessation of all those functions the aggregate of which constitute life; it is commonly preceded by painful symptoms styled the "agony"; may be "natural," the result of disease or old age; or "violent," the result of injuries; may be "molecular," limited to a part; or "somatic," affecting the whole body, and may begin at the heart, or the lung, or the brain, or in the spinal cord, or perhaps in the blood, though the latter is questionable. The ancients believed that death must commence in the heart, lungs, or brain, and therefore called these organs *Atria Mortis* —the Halls of Death. Paralysis of the sphincters, the variation of the temperature, the complete absence of the respira-

tory murmur, and of the sounds of the heart, the softening of globular structures, hypostatic hyperæmia, and other *post-mortem* changes, are among the most reliable signs that indicate that we are "in the presence of the dead."

Among the tests that may be, and in any doubtful case *should be*, employed, is the one resorted to in the case of the clergyman's daughter—opening an artery. If blood flows in jets and is of a bright color, life remains; if, however, it be patulous and empty, the life, of that region at least, has departed.

About six hours after death cadaveric rigidity hardens the muscles and stiffens the joints, and after a variable period passes away. These conditions are subject to many variations as to time and degree. Taylor says *(Jurisprudence)*: "I believe it may be safely said that there has not been a single instance of resuscitation after rigidity has once begun in a body." The complete and permanent dilatation of the pupil —if not caused by the action of atropine or other mydriatics, or following brain or spinal injuries—is strong presumptive evidences of death. Relying upon this sign alone, Dr. Jessop, of King's College, London, restored a child that was pulseless, without respiration, and with fallen jaw. He says, in connection with the case: "If a fully-dilated pupil be found in connection with the cessation of respiration and circulation, we may safely conclude that life is extinct." To any one who has closely watched the final actions of the dying, the sudden, sometimes almost lightning-like dilatation of the pupil appears the most pronounced change that occurs.

A mirror, or any other metallic substance with a smooth surface, and of low temperature, will condense the vapor of the breath if air continues to be expired.

A bright needle, or other instrument of *steel*, inserted into the body during life, soon becomes more or less tarnished by oxidation. If, however, life is extinct, the needle will retain its polish and brightness, even after a considerable interval. Pricking a part abounding in capillaries, as the lip or the tongue, is followed by the escape of at least a drop of blood if the circulation is still carried on. After death, however, no such flow will take place.

A ligature around the finger tight enough to compress the veins and not the arteries, which are deeper, will cause congestion, discoloration, and swelling in the living, but not in the dead. A bright, concentrated light sent through the normal hand of a living person, similar to the way in which light is used in the diagnosis of hydrocele, will develop a more or less pronounced pink hue, but in the hand of the dead, a pallid, dusky, grayish white. Dr. Larcher, of Paris, pointed out recently what he believed to be the most certain and earliest reliable sign of death. It consists in the presence of a blackish, at first not perceptible, spot on the sclerotic, which grows darker and darker. It is first seen on the outside of the pupil ; then shows itself nearer and nearer the inner corner, draws closer to the centre of the organ, and at last unites and forms an elliptical segment on the lower convexity of the eye. This is said to signify the change from rigor mortis to putrefaction. "It is the sign of death, the herald of corruption."

The effect of electricity applied distinguishes a living from a dead body, to this extent, that the muscles respond in inverse ratio to the length of time intervening after death. No response to a strong current is strong presumptive evidence of death. In 1880, the case of a convict in Hungary who was resuscitated by the electro-galvanic current after he had been pronounced dead and cut down from the gallows, was officially reported. The superficial application of heat to the skin causes a blister to form alike in the living and the dead ; but in the dead it is filled with air, in the living with serum, and is circled with a broad band of redness. As a rule the temperature of the dead body gradually falls from that peculiar to the disease which caused death, to the normal, and finally to that of the atmosphere. This, however, is not to be relied upon as a test, since there are exceptions. In malignant cholera, in cerebro-spinal meningitis and small-pox, an increase of temperature has been noticed some time after death, and a case is reported on excellent authority, wherein at the autopsy after the viscera had been exposed fully ten minutes, the thermometer placed under the left ventricle, indicated 113 degrees.

M. Bouchut in a prize essay wrote: "The absence of the sounds of the heart, listened for during more than one or two minutes, is an immediate and certain sign of death."

A marked exception to this rule is related in Taylor's *Jurisprudence*, of a Col. Townsend, who possessed the astonishing power of a seeming voluntary death; *i. e.*, he could suspend the action of the heart and lungs for half an hour. In the eye also important signs of death are to be found. The film over the eyeball, the dullness of the cornea and the collapse of the globe are usually signs of death, though they may precede it in Asiatic cholera, or be delayed some time after it in apoplexy, or some cases of poisoning. In the fundus of the eye, characteristic changes are to be seen with the ophthalmoscope, such as intense whiteness of the discs, and disappearances of the retinal arteries.

Some one of the tests enumerated may not, singly and separately, be conclusive proof; each one, however, is strengthened by the presence of any other, and when taken together they are sufficient to live by and die by, and when intelligently applied will prevent all premature burials. Physicians should decline to certify that all sudden deaths are due to heart disease or apoplexy, unless so proven by a necropsy or other conclusive evidence. They should positively refuse to allow a body to be placed on ice until the existence of death is determined beyond a doubt. No doubt the vital spark has been frozen out of many an unfortunate one. They should decline to give an opinion as to actual or apparent death, unless allowed to apply as many of these tests as they may deem proper. The public should be taught the foolishness of refusing *post-mortem* examinations, and should be made to understand that in so refusing they criminally gratify their own selfishness, and deprive the victim, if any life remains, of a means of resuscitation, for more than once the first cut of the scalpel has restored to consciousness a supposed corpse.

CONVULSIVE TREMOR.

A RARE DISORDER, WITH AN ILLUSTRATIVE CASE.

By C. E. Miles, M. D., Boston Highlands, Mass.

What I have to say concerning convulsive tremor is necessarily limited, as its literature is meagre, and I have seen but one instance of the affection. Indeed, the most I can hope to do is to call the attention of others to the malady so that they may be better prepared to meet it if they have not already observed it, and to study with them its pathology, phenomena and treatment.

Dr. W. A. Hammond, in his *Diseases of the Nervous System*, sixth edition, p. 696, is the principal authority I have been able to consult on the subject. He says: "In the year 1822, Dr. Pritchard, under the name of Convulsive Tremor, gave an account of two cases, presenting somewhat similar features to the one before us," referring to the case he—Dr. Hammond—was then considering. He also mentions one or two others who have written very briefly on the subject.

May 18, 1882, I visited G. P., æt. 46, a German by birth; single; a short, spare man, and below the average intellect. He had "fits" in his infancy, and did not talk until his tenth year. He had worked in a rubber factory for nearly twenty-five years, except during an illness from abscess of the rectum, many years since, from the effect of which he had never fully recovered. The day before I saw him he had left his work on account of a severe headache and dizziness. He had some difficulty in walking home, a distance of half a mile, had eaten but little after his return, and slept poorly during the night.

I found him in bed, his right arm jactitating violently, and the tendons of the hands tremulous; the head was drawn to the right side and forward. At times the respiration was difficult, occasioned by paroxysmal spasms of the diaphragm. These attacks continued from five to ten minutes, and then there would be a few minutes of intermission, to be followed by another paroxysm. During these attacks he could neither speak or swallow, but was apparently conscious all the time,

and so affirmed when the paroxysms had ceased. The pulse was about 80 per minute, and the temperature seldom arose to 100° F.

These paroxysms continued to recur at intervals of from one to thirty hours for six days, when they ceased. On June 2, after the lapse of nine days, they set up again, and manifested themselves very much as in the first attack, for five days. They then recurred only once in two or three days, till June 29th, when six days elapsed before he had another paroxysm. Since that time there has been no return of the malady. Each paroxysm was followed by a profuse perspiration, great prostration and loss of appetite.

The only variation in the phenomena of the attacks was that in some of them both arms were alike convulsed, and in a few instances both legs as well as the arms were similarly affected, the tremor of the tendons of the feet at these times being as manifest as in the hands. The head was always drawn to the right, and in some of the last paroxysms there was marked opisthotonos. Headache and dizziness preceded, accompanied, and followed the attacks. The face was always deeply flushed during the paroxysms, and in two or three instances, when they continued for two or three hours with but a few minutes of intermission, the eyes became somewhat congested.

Hearty meals, mental excitement and constipation evidently tended to excite the paroxysms.

On examining my patient I was at a loss for a diagnosis. The phenomena were unique to me, except as it was obvious enough that I had to do with a disordered nervous system. It could not be epilepsy, for there was no loss of consciousness. Was it chorea? Certainly not; for the disease manifested itself in paroxysms, and the movements were rapid and tremulous, and were followed by perfect quiet. Nor could it be hysteria, for the spasms were clonic, and there was not anything in the clinical history of the case that pointed directly to the peculiar phenomena. The paroxysmal character of the attacks also differentiated it from the structural diseases of the cerebral and spinal tissues. My thoughts then reverted

to Dr. Hammond's description of Convulsive Tremor, and I soon became satisfied that my patient was suffering from that disease.

As regards what shall be called Convulsive Tremor; what are its causes, what its morbid anatomy, and what its pathology, I shall quote a few of the *Considerations* of Dr. Hammond; for so far he has hardly expressed positive opinions on the subject. His treatment is fully set forth in his work to which I have previously alluded. The treatment adopted in my own case will be presented presently.

Dr. Hammond says: "Under the designation of Convulsive Tremor, I propose to include all those cases of non-rhythmycal tremor or clonic convulsive movements which are unattended with loss of consciousness, but which, nevertheless, are paroxysmal in character," p. 696. Farther on, he concludes that "convulsive tremor is an affection characterised by clonic convulsions affecting the voluntary muscles and unattended by loss of consciousness or by mental aberration, though sometimes there is emotional disturbance." * * * p. 704.

The causes he believes to be obscure, as a rule, though in some of his cases alcoholic and sexual excesses were the apparent provocatives of the attacks.

The morbid anatomy and pathology of the disease he considers to be "an irritation of the nerve-centres in the cortical substance of the cerebrum, conjoined with an hyperæsthetic condition of the medulla oblongata and upper part of the spinal cord." p. 705. And again, he says: "The morbid anatomy of the affection under notice is entirely a matter of supposition, and indeed there are not many data for forming an opinion relative to the essential nature of the structural alteration. So far as we can judge from a consideration of the phenomena, the seat is in the cortical substance of the brain, and in the medulla oblongata and upper part of the spinal cord. The disturbances of the respiration and circulation point to these latter organs as a part of the anatomical substratum." p. 707.

The treatment in the case reported was, in the beginning,

tincture of Gelsemium, min. x, in a tablespoonful of water. This remedy was continued in five-minim doses every half-hour for four doses.

I continued the remedy for another twenty-four hours in minim-doses every two hours. The bowels were greatly constipated, and failing to relieve them by the common enema of water, brown soap and castor oil, the compound liquorice powder, ʒi, to which Merrill's leptandrin, gr. v, was added, was administered and acted well. After this the bowels were kept soluble most of the time by the enema just mentioned. The diet consisted principally of milk and broths. As the paroxysms recurred I resorted to the bromide of sodium in doses ℈i to ℈ij, until the attacks ceased to recur. On the 10th day of the sickness I prescribed as follows: R.—Ergotine (Squibbs), grs. xxx; Ext. Quassia, grs. xxxv; Bromide of Zinc, grs. xlv. M. Make pills No. xxx. One of the pills was taken at 7 A. M., 1 and 9 P. M. In the after attacks, during the paroxysms, the pills were discontinued and the bromide of sodium was administered as in the first attack, with Gelsemium in alternation in ten-minim doses until the physiological effect was produced on the eyelids if so much was needed. The permanent treatment was the bromide of zinc pill, and the cure apparently is complete.

SELF-LIMITED DISEASES.

By V. A. Baker, M. D., Adrian, Mich.

In the beginning of this discussion I cannot but remark that all diseases are self-limited. I suppose, however, that it is expected that this paper will define that class of maladies that have a stage of incipiency, of excitement and decline, leaving the patient, within a limited time, free from the influence of the same, circumstances being equal.

To this order belong the whole family of acute diseases that are governed by fixed laws, especially exanthemata; the

system receiving the germs contagiously or infectiously, being governed by almost exactness in passing the several stages to recovery or death.

Measles, for example, are uniformly ushered in from ten to fourteen days after exposure, a stage of excitement then coming on, fever, blotched skin, mottled look, weak eyes, cough and a uniform set of concomitant symptoms, lasting a uniform time—four to six days; then marked by a gradual decline of symptoms and recovery, in favorable cases. We might say as much of scarlet fever, small-pox, chicken-pox, etc., so far as uniformity in symptons are concerned. There seems to be and probably is, from the time of exposure ("period of incubation") to the time when the initial chill and following fever occurs, a condition that may be compared to leaven that, however little in the beginning, finally "leavens the whole lump" —a sort of ferment, that arriving at a certain pitch, so to speak, provokes the strainerage of the body to unusual activity, to expel the offending cause, the irritable quality of which produces the specific influence upon the skin, and also the irritable cough, congested eyelids, etc.

In scarlet fever the law varies quite noticeably, both as regards period of incubation, skin symptoms, absence of inflamed eyelids, etc. In scarlet fever usually the fourth day from exposure ushers in the symptoms, as sore throat, rigors, vomiting and often delirium.

Small-pox presents another class of symptoms; fever, back-ache, bones-ache, headache, vomiting, etc.; eruption occurring on third day of fever, differing from either scarlet fever or measles, being more prominently expressed papilla, more elevated, the body covered more or less with a crop of pustules very prominent, each malady being governed by a well-defined law, differing as to time of incipiency or incubation—time when fever appears, declines, etc.—showing that each affects the system differently from the other. According to modern conjectures in pathology, each disease must be caused by different spores from the great baccillus family, and without discussing this matter, or even assuming to know, I may, perhaps, not be considered far astray with my subject if

I merely express it as my opinion, founded on observation, investigation and thought, that the present craze in this direction is out of proportion to the modicum of base underlying the truth in the matter. At least I would much sooner accept the parasite as a sequel than a cause in considering all self-limited maladies where blood-poisoning symptoms occur.

Constitutional tendencies, or idiosyncrasies, must account for the difference in the severity of contagious and infectious diseases. As a rule, mild and severe cases contrasted, although circumstances may convert a mild case of exanthemata into a severe one, nevertheless, it cannot be denied and careful observers will confirm the statement, that there are persons so constituted that they may be compared to the torch applied to material moderately combustible or highly so. Poison ivy, poison sumac, etc., will in some instances produce symptoms akin to aggravated erysipelas in persons with the right tendencies; while others may handle it with impunity. I know of individual cases of this type—persons who contract the poison-ivy erysipelas-like condition several rods away from it, if the wind blows the pollen into contact with them; while others will only be endangered by actual contact, and still others are not susceptible to its influence in any manner.

There is, then, much to learn regarding the cause of many common forms of disease, and much that is not properly attributable to the new theory, that micrococci or micro-organisms are the cause of all our troubles, but more likely a result. Every decaying pile of offal, subject to certain fixed laws, *i. e.*, warmth, moisture and light, will soon teem with numberless parasitic creation, all of which seems to be wisdom in Nature's order to change death into life again, and decay, that would be a stench to the nostrils and an evil against physical life, into animate life again; so the physical decay of life's molecules, invaded by some subtile, invisible something we call by this or that name, is thus wisely invaded in the order of things it may be, thus shortening the disease by using up its products—products once exhausted, the life that fed thereon ceases, and all is eliminated from the system by its well-

known regulating forces. Either this must be true, or where and how does the multiplied billions of parasitic life end?

If, in self-limited diseases of the order under consideration, the sporule is animate, a cause rather than a sequela, it seems to me that untoward cachectic constitutions could never recover, as multiplied cause of disease would be constantly furnished as new products to hinder recovery. Indeed, without this proviso, it seems upon surface-reasoning, that the human organism would soon become a mass of corruption. Be this as it may, all practical tests prove that suitable bases soon teem with life, and we know that, microscopically, a drop of water is an ocean of life and animation.

I have met, not unfrequently, persons who present themselves for treatment, with the statement that since they had measles they have never been well. They suffer from cough, and if they are ill, they often have a mottled appearance of the skin, fever, weak eyes, etc. I have at this time a patient in charge, who some years ago contracted small-pox, having it in the usual way. He had never been vaccinated, was unusually sick, but finally recovered; at least so far as confinement to the house was concerned, but was left in poor health and impaired digestion. The skin performed its functions abnormally, ulcerations occurring at intervals here and there, and healing in time to make way for others. Usually every spring, and sometimes in fall, also, he would be seized with rigors, fever a few hours, followed by a rash lasting a day or two, gradually fading, when he got better and was about again. He has been under the treatment of eminent men but never received more than passing benefit. I saw him at intervals during three or four years, treating him at times with no better result than my neighbors. Finally I decided to vaccinate him, and did so, using the first remove from an infant five months old, whose arm had been under my supervision from time of vaccination to filling of lymph-product, which I secured in the usual way and used on the subject under consideration. No marked peculiarities were presented. The second day after vaccination a slight elevation over the puncture was noticeable, with redness of skin, which spread slight-

ly and deepened day by day, till the fifth day. The vesicle formed gradually, increasing in quantity till by the eighth day, it was fully distended; thence passing the usual characteristic as to time and subsequent behavior. These observations were taken last October (1882), and up to the present time none of the old symptoms have returned, and the subject has confidence, from his daily experience, that they will not.

I cannot but believe that the trouble that comes from these sources and gives coloring to suspicion and to the formation of "sides" in the matter of vaccination, is because of cases either improperly handled, or because of idiosyncrasy, as alluded to in cases so differently by poison-ivy, poison-sumac, etc., before mentioned in this paper.

Although the human organism is self-regulating as a rule, circumstances being reasonably favorable, yet we are sure to find scattered, it may be, far apart, cases that present decidedly peculiar and obscure symptoms, resulting from cause or causes that in the majority of cases would have been self-limited. A scratch from a cat, a pin or needle-point piercing the derma, a contused wound, soap upon chapped hands, and numerous other causes, may here and there produce results at once severe and even dangerous to life. We are sometimes told this is because of "bad blood," or other disordered conditions of the system. But it is far from satisfactory; for, on giving the matter a little thought we are unable to reconcile matters in this way, and we are forced to conclude that, as a rule, it must be a resident physical property *per se*, and not the result of "bad blood," or "derangement of the system;" for the majority so exposed get no unfavorable result from such exposure, though circumstances warrant me in expressing the opinion that cases now and then occur that may manifest a similar train of symptoms to the above, from causes that may have failed many times, and, in fact, always up to some special condition of life, as if a female, the menopause, or if a male, the critical period that seems to come to some, if not all, at a certain age.

In dismissing my subject I remark that I am aware I have not stuck to the text of "self-limited disease," but have rather

alluded to the *sequelæ* that often follows disease that should be self-limited; as I do not regard simple gastric disturbances and resultant concomitants as disease, though indeed they are not always self-limited, and may cause the medical man much anxiety. Nevertheless I pass them, as I do the common cold and the many after results; having followed the train of though therein presented, because I have found more to do in this direction, and am aware of imperfections, as I have not aimed at exactness, but rather practicality.

"*SWAMP FEVER.*"

MALARIAL HEMORRHAGIC FEVER—MALARIAL HÆMATURIA.

By J. W. PRUITT, M. D., Russellville, Arkansas.

If we except yellow fever from our category, the malady under consideration must be considered as the most formidable as well as fatal disease of the Southwest, the mortality reaching sometimes as high as thirty-three per cent. All medical authorities that we have consulted, and they are not a few, are silent in regard to it. Only an article now and then, in some medical journal, from a rural practitioner, near the habitat of the disease, constitutes the major part of the literature upon the subject.

Those who long reside near swamps, marshes, and sluggish water-courses, are the most frequent subjects of malarial hæmaturia; indeed the writer has never known or heard of any one being attacked who had not long dwelt in such a region. The disease may be found prevailing at any time, during the summer or early fall-months, but more particularly when there is a mixture of wet and hot weather, or when very hot weather succeeds a long wet spell. Other observers say that they have seen it more often during the cold season.

For a longer or shorter period varying from ten days to as many weeks the patient will be in a condition of general *malaise*, hardly knowing what is the matter with him, unless

he has seen cases of the disease. Pretty soon appearances of anæmia set in, with a slight cyanotic appearance of skin; the appetite may or may not be somewhat capricious; bowels loose or costive; pain about the region of the kidneys. Sooner or later a well-defined chill sets in of longer or shorter duration, sometimes with feeble reaction.

The history of every case I have ever seen leaves no doubt on my mind that it is the result of chronic malarial poisoning of the blood. I do not propose to discuss the question of malaria in this paper, but for a full exposition of the subject refer the reader to the investigations of Klebs and others in the Roman Campagna, published in the *Eclectic Medical Journal* a few years since. I accept the theory of Malaria, till a better one is found, as accounting more perfectly for the phenomena of periodic fevers than any other. That the poisoning is chronic is evidenced by the time the patient complains of feeling unwell, and if he is at all acquainted with the disease he will tell you that he is going to have an attack of "Swamp Fever."

If the vital resistance of the system is great, the outbreak of the disease may be longer in taking place, but if feeble the period will be shorter. But sooner or later the kidneys, skin and other emunctories of the system being exhausted in their efforts to remove the *materies morbi* from the blood, the final onset of the disease takes place.

The disease manifests itself in two forms, the sthenic and asthenic. The latter is much more frequently encountered than the former, owing perhaps to the system being debilitated by the longer-continued depressing effects of the morbid material in the blood. Fortunately this disease is somewhat rare, not occurring as often as might be supposed. For example, in the course of one season, from one to a dozen cases may be encountered, and then several years may elapse before another case is seen in the same region. It is said to be encountered more frequently in some localities than others. The district south of Memphis, bounded by Nonconnah creek, Horn Lake, and the Mississippi river, is a region where it is said to be frequently found.

In the sthenic form the symptoms do not materially differ from the asthenic, only in their severity. The patient may be up and about, only feeling a slight aching in the bones, with chilly sensations for a few days; when suddenly the disease makes its onset, as manifested by a chill of greater or less severity. This is succeeded by the hot stage, that lasts ten or twelve hours, with pain in the head and back, the pulse full and bounding, the tongue full, sodden, and only slightly coated, or it may be covered with a dark-brown fur. The bowels are generally costive; the eyes may or may not be at this stage slightly tinged with yellow. The hot stage is succeeded by the stage of remission, which is generally of short duration. So far the symptoms detailed are those of a severe attack of remittent fever; but at about the second or third rise of the fever hemorrhage from the kidneys sets in, together with a general icteric condition of the skin requiring only a few hours for its full development. The hemorrhage may be slight, or quite profuse, amounting in some cases to one-half the quantity of urine and blood discharged at one time.

In the asthenic form the symptoms are not so active, while those of vital depression are profound; also the prodromal stage is of longer duration. The patient may be up and about several weeks before he takes to bed, feeling bad and dull, and out of health, presenting an anæmic, slightly cyanotic appearance. Finally a chill supervenes, followed by slight reaction; patient dull and listless; the vital depression marked; bowels costive or loose; pulse quick, small, and easily compressed; tongue sodden, moist, with a slight dirty, yellowish-brown coat; skin cyanotic. On the second or third day hemorrhage, generally of a passive character, sets in from the kidneys, together with the peculiar icteric appearance of the skin, which may pass into a deep bronze, as the disease progresses; the dullness and coma become more profound, the vital depression deepens, until finally the patient sinks into the arms of death. But if the case is to terminate favorably, the hemorrhage after the second or third day of its duration gradually diminishes, the skin clears up, secretion is restored, but the patient is as weak and helpless as an infant, and his convalescence will have to be managed with great care.

No *post-mortem* appearances that we are aware of have ever been reported, but one would suppose, from the symptoms and course of the disease that there would be found the kidneys in a state of congestion with rupture of their blood-vessels, congestion of liver and spleen, the blood dark and loaded with carbon, and general congestion of the capillary blood-vessels.

Diagnosis.—The only disease this is likely to be taken for is yellow fever; but as that disease always prevails as an epidemic, together with watery, inflamed eyes, and absence as a rule of hemorrhage from the kidneys, these will serve as sufficient marks of distinction.

Prognosis.—This must be guarded in bad cases; in mild ones it may be regarded as favorable.

Treatment.—In the sthenic form we begin the treatment with the special sedatives. Thus, if the pulse is full, hard, and bounding, we prescribe Veratri Virid tinc. gtts. xx to ʒss.; Aqua ad. ℥iv. Mix. S. Teaspoonful every half-hour or hour till the circulation is brought to as near a normal standard as possible.

To the above, if there should be determination of blood to the brain, as shown by a flushed face, contracted pupils, restlessness, etc.; we add tincture of Gelsemium, ʒj. to ʒij. If there is dullness and hebetude, we add tincture of Belladonna gtts. x. to xx. If the stroke of pulse is sharp and quick, small and corded, we substitute tincture of Aconite for that of Veratrum. In connection with this we use hot mustard pediluvia, and the alkaline sponge-bath to the entire surface every two or three hours. Should the hemorrhage set in early, before the sedatives have their desired effect, nothing that can be done will have much effect in controlling it, but as soon as sedation is established and the skin begins to assume the peculiar icteric hue, we then prescribe the following: Specific Tincture o Chionanthus, ʒvi.; specif. tinct. of Rhus aromatica ʒiij. Mix. S. Forty to sixty drops every three hours. This has a wonderful effect in clearing up the skin and abating the hemorrhage. Do not waste time with small doses of the tinctures of Chionanthus and Rhus, if you expect to accomplish anything good for your patient. It is the worst kind of nonsense.

Ergot, in drachm-doses every hour, has been highly recommended by some as a specific to control the hemorrhage. I doubt not that it might be of benefit in some cases; but still, in the light of present experience, I prefer the tincture of Rhus aromatica.

As soon as the function of secretion is re-established, the tongue-cleaning and pulse-softening, with moist skin, Quinia or Cinchonidia should be given in full doses every two or three hours, till the system is brought under its full influence. So far nothing has been said about the bowels. If they need moving, a powder of Rheum et Potassa compound and Leptandrin, āā., in doses of from four to six grains every four hours, may be given, assisted, if necessary, by enemas of tepid salt water. But if they should be too loose, a powder of trillin or geranin, bismuth subnitrate and diaphoretic powder, of each two grains, may be given from two to four hours apart, together with small enemas of starch and laudanum.

Convalesence will have to be managed with care. The diet must be of a bland and unstimulating character, consisting of rice-water, chicken-broth and fresh milk. If the patient craves acids, buttermilk, somewhat sharp, may be allowed in small quantities.

In the asthenic form sedatives will have to be used very sparingly, or not at all. Indeed, I very much question the propriety of their use. What we need is cardiac and nerve-tonics, and stimulants, used with judgment and discretion, together with counter-irritation and revulsives. To sustain the nervous and vascular systems we prescribe: R. Digitalis, spec. tr., gtts. x. to xx, Nucis vomicæ, spec. tr., gtts. x. to xx. Aquæ ℥ iv. Mx. S., teaspoonful every half-hour, or hour, until the circulation is improved. In the meantime, if there is drowsiness, Belladonna, gtts. x. to xx., must be added to the above, or to water, ℥iv., and alternated with the above in the same doses; or Ergot, in doses of half-drachm to one drachm every hour or two, may be exhibited instead. At the same time the hot mustard sponge-bath should be applied briskly to the whole surface, but especially to the spine as hot as can be borne, after which sinapisms to the extremities and spine may be applied if deemed necessary.

In extreme cases benefit has been derived from hypodermic injections of strychnia, grs. 1-40 to 1-60, and repeated every hour till reaction is established. We have never tried it, but should not hesitate to do so, as we are inclined to think favorably of it. The above measures should be energetically persevered in, until reaction is established, after which, should the circulation become excited, the proper sedative should be given.

As soon as the hemorrhage and icteric condition of the skin make their appearance, the tinctures of Chionanthus and Rhus aromatica should be given in full doses, as before directed.

Much variety of opinion exists with regard to the use of quinia in this form of the disease; some contending that its use is positively injurious, whilst others regard it as being indispensable, and give it from the start. My opinion is, that it should be exhibited in moderately-free doses as soon secretion is re-established, as manifested by moist skin, a moist and cleaning tongue, and an open, regular, unexcited pulse. Given under these conditions its administration will result in benefit, in sustaining the nervous system and antagonising the morbid material in the blood.

If our conjecture of the cause of the disease is correct—chronic malarial blood-poisoning—one would almost instinctively think of quinia; but it, like every other powerful agent, must be used at the right time and place, or it will do harm.

Should an indication for an antiseptic be present, in either form of the disease, it should be promptly met. The antiseptics, sulphate of soda, chlorate of potassa, Baptisia, hydrochloric, and sulphurous acids, and their indications are so well known by Eclectic practitioners that it is needless to point them out.

Other indications besides those mentioned may arise and require the use of agents not named. But the main features and treatment have been indicated, and is the result of observation and study, as well as information obtained from others.

Convalescence will have to be managed with extreme care. The diet should be light and easily digested, consisting of fresh milk and corn-meal gruel, made thin, well cooked and

taken with the milk in small quantities at a time. Egg-nog, as a change, when the patient becomes tired of the gruel and milk, may be allowed; later on chicken or mutton-broth, or beef-tea, may be given.

The most scrupulous cleanliness should be enjoined. The alkaline sponge-bath should be used sufficiently often to keep the skin clean and determine to the surface; also the clothing should be changed every second or third day.

Case.—A Mr. B., who lived the larger part of last year in the cypress swamps, came to this place, and for several weeks had "chills." He appeared to be anæmic and somewhat cyannotic, and finally was taken down to his bed. It was a case of malarial hæmaturia. Two "regulars" first had charge of the case and gave large doses of ergot and calomel. They then abandoned the case. Dr. Cook, my associate, was next called, and the "regulars" said: "P. and C. now have a case that 'weed-juice' wouldn't cure." But we put him through a regular course of pure specific Eclectic "weed-juice" and the patient came through all right. Regulars *hors de combat* and mum; but would like to know what that *weed-juice* was.

TYPHOID PNEUMONIA.

By S. W. Ingraham, M. D., Chicago, Ill.

Typhoid Pneumonia may be defined briefly as a tonic condition arising after the acute stage has passed, from some cause or agent that greatly depresses the vital powers, temporarily or permanently; and unless speedily arrested by appropriate treatment it is very certain to terminate unfavorably. It is not my present purpose to take very decided grounds upon the various theories of the cause of this disease. Many pathologists hold that bacteria are the sole cause of the toxic effect; others that decayed animal matter is the exciting cause in very many cases; while there are still others who adhere to the theory that abscess or gangrene contaminates the blood with poisonous matter, and that this is the true pathology of the disease.

I am unwilling to assail any of these theories, for the reason any one of the causes named might produce the effect necessary to cause the typhoid state. I am inclined to the theory that after congestion, inflammation and lancinating pain has passed, ulceration, abscess and eventually gangrene supervene, which poison and disintegrate the blood, so that the form which we call *Typhoid* ensues. We must not overlook one important fact, namely, that hepatisation exists in the parenchyma of the lungs, closing from one hundred thousand to one hundred million air-cells and cellular and inter-cellular passages, thus intercepting the carbonic acid in its exit from the lungs, poisoning the blood from want of proper decarbonisation, and rendering the system liable to the typhoid condition. It is also well to bear in mind that the lungs have lymphatics which begin on the surface and in the substance of the lungs and terminate in the bronchial glands, and that they in connection with the numerous capillaries, nerves, blood-vessels and parietes of the intercellular passages are hindered and hampered, so that they cannot perform their work of receiving and carrying oxygen for the decarbonisation of the blood, and that the system is thereby poisoned in such way and manner that typhoid will result therefrom.

One case of pneumonia has come under my observation in which both lungs were hepatised, and where well-defined symptoms of typhous fever were presented, and recovery ensued within a reasonable length of time through the heroic use of quinia, salicin and brandy combined. I will also call attention to another well-marked case under my observation, of abscess caused by a blow from a sledge-hammer in the hands of a blacksmith. It was in winter, and the patient evidently took cold from imprudence or exposure and congestion. Inflammation and abscess ensued in quick succession, terminating eventually in typhoid pneumonia.

I found filthiness of various kinds in his apartment, the ceilings of which were low and the rooms damp and cold. He was suffering from derangement of the brain and nervous system, which involved nearly every function of his body. Abscess was well defined at a point between the fourth and fifth intercostal space. I introduced a trocar and canula with-

out delay, but did not leave the canula remaining in the opening over ten seconds. He fainted on the instant, and I removed it at once. He had now great difficulty in breathing. I was soon rewarded, however, by seeing him cough up and expel great mouthfuls of bloody pus and hepatised matter resembling pieces of liver. A nourishing diet was ordered, and the patient left in the hands of a competent nurse for the night. Toward morning, however, he had a chill lasting for about three hours, followed by high fever, exalted temperature and great disturbance of the brain and nervous system. He exhibited all the evidences of blood-poisoning. I required him to be removed to a clean, airy apartment and administered powerful doses of quinia, salicin, Baptisia tinctoria, brandy, and milk with the most satisfactory results. He made a good recovery.

In the second house west of my residence on Washington boulevard, Chicago, lives Mr. B., whose wife had an abscess; following, I think, upon an attack of pneumonia. I was not in attendance upon her at the time, but was told by her sister that it had broke internally and that she coughed up nearly a quart of what their physician called purulent matter a few moments after. It is now several weeks since the abscess discharged its contents, yet she has not entirely recovered from the blood-poisoning.

SYMPTOMS OF TYPHOID PNEUMONIA.

There is a marked difference in the symptoms which will appear in two different persons, apparently affected with the same disorder under like circumstances of house, atmosphere, and other surroundings; and hence, it seems to me nearly or quite impossible to describe them with absolute exactness. Note the following: Dyspnœa well marked; veins about the neck becoming turgid; the countenance of a livid hue. If but one lung is involved, the patient will lie on the affected side; if both, he will lie upon his back, with his shoulders generally elevated, in order that respiration may be as easy as possible. The cough will generally be moist in this stage of the disease; and there will be a thick, rusty-colored sputum, tinged with

streaks of blood resembling liver in its consistence, which will sink to the bottom of a vessel and adhere to its sides and bottom. The bowels are usually constipated; the mind confused, fretful and restless; there is an anxious expression of countenance; the urine is scant in quantity and generally of a reddish color; there exists imperfect sight in some and dullness of hearing in others; and in some cases both of these phenomena. Among other noticeable symptoms are stupor, picking of the bed-clothes, insensibility; the countenance shows an expression of gloom; the tongue becomes coated and clammy, or dark and dry; the stomach is irritable, the pulse feeble and slow; the temperature is often 106° to 109° (F.); the skin is covered with a cold, clammy sweat; the countenance becomes cadaverous, and unless the patient is speedily relieved death is very certain.

Diagnosis.—The very high temperature that prevails in this disease is an important diagnostic symptom. The skin is hot and dry; the urine is scanty and high-colored; the pulse obstructed, weak and irregular. By inspection of the chest we may discover that the side affected does not expand during inspiration in the same manner as the one on the opposite side. We may prove this by palpation, or placing both hands flat on corresponding parts of both lungs and noticing the diffent motions of the two sides during respiration. By percussion over the inflamed lobe a dull sound is produced, caused by increased density. In order to fully appreciate this dullness the percussion should be made in both lobes. If a portion of the lobe is hepatised, there will be a dull, flat sound. Auscultation will reveal a loud "muco-crepitant rattle." "But as the lung continues to break down, and a cavity is formed, amphoric breathing and gurgling takes the place of other sounds." Finally, the former history of the case, together with the usual tests properly made, will be sufficient for a proper diagnosis of true typhoid pneumonia.

Prognosis.—The prognosis in typhoid pneumonia is not generally very unfavorable, especially if but one lobe is involved, and there has been no great derangement of the solids and fluids of the body. When, however, a virus has been gen-

erated, disintegrating the blood, then we must look upon the case with apprehension, especially where both lungs are involved, and there are other complications, such as frequently occur.

Treatment.—The disease being of a passive character its treatment will require sound judgment and the exercise of good common sense. As I have already remarked we have to contend with a very high temperature (106° to 109° Fahrenheit), and a slow, sluggish circulation, with the vitality greatly depressed. In order to support the sinking powers of the body, and to neutralise the blood-poison, which is often a very difficult matter, we should give wine-whey, carbonate of ammonia, camphor, or champagne wine. Doses of quinia, sufficiently large, should be administered. In toxic diseases much larger doses are required, as all physicians well know; and the physician in charge of such patient should be equal to the emergency. My plan of treatment has been to give a large dose of quinia, salicin and brandy at bed-time, and supporting treatment through the day. This will tend to enable reaction to be permanently set up and established before another dose is given. I believe that medical men generally agree that large doses of quinia act as an antiseptic, and become much more valuable as such when combined with brandy, salicin and other well-known stimulants. I would not overlook the value of such remedies, as phenol (kreosote) Baptisia tinctoria, iodide of potassium, salicylate of soda, and other reputed antiseptics. They have all had their advocates, and I doubt not have been of good service to many practitioners in the treatment of this terrible malady; but no remedy has served me so well as full doses of quinia, associated with brandy, and in some cases salicin.

THE ABUSE OF OPIATES.

By HENY WOHLGEMUTH, Springfield, Illinois.

I do not stand alone in expressing my conviction that the use and abuse of opiates is a question that will soon require more than ordinary attention on the part of our profession. I would more especially mention the sulphate of morphia, since it is prescribed and used not only by physicians, but by many others without the advice of a physician. The notion that opium and morphia constitute an all-healing remedy, which many physicians seem to have adopted, is as foolish as it is pernicious. It seems to me impossible for any intelligent physician to regard the growing tendencies towards the indiscriminate use of these opiates otherwise than with alarm.

I think it will be admitted by all impartial persons that it is wrong for medical men especially, to prescribe and deal out drugs, the effects of which are known to be pernicious in many cases, without carefully considering the particular case in hand. The case may often times seem complicated, demanding the utmost care and the highest exercise of judgment on the part of the practitioner for the proper treatment. Constitutions are differently affected by the use of opiates. Some are irritable and nervous, others are torpid and sluggish. In some the vital powers are naturally weak, in others there is a superabundance of latent force and strength of constitution, which if only brought into exercise has largely to do with the process of change from a condition of disorder and weakness, to that of vigorous health and strength.

It is in view of this fact and other kindred topics, that we are as medical men, from all parts of the country assembled in annual meeting to present and discuss matters appertaining to health, happiness and life. This is a duty we owe to ourselves, to the profession whose representatives we are, and to humanity at large. We come here to interchange ideas, to state facts observed in our experience, so that it may be for others to profit by them. So doing, we add our personal contribution to the sum of human knowledge. In pursuance of

the duty assigned me how far I shall succeed in doing justice to the subject under consideration I leave for others to decide.

I regard as a true medicine that agent which acts in harmony with the laws of nature, not interfering with life, but assisting in the eradication of disease, and in helping to restore to health and vigor, by removing the obstructions and probable causes of disorder, and thus making possible the healing or curative process.

True science in the practice of medicine does not consist in the administration of a drug merely, but it is the all-important faculty of knowing how and when to act. In the successful pursuit of this science, we must always recognise the relationship we hold to the laws of nature, for we are well aware that the actual healing process lies with nature herself. Without that assistance we shall always fail. But we do know that it is within the power of the physician to assist or prompt nature in those mysterious processes of recuperation and recovery, which unaided, she might be unable herself to accomplish. Herein lies the true technic of our profession. To do this, it becomes every physician to acquaint himself with nature's laws and requirements to the fullest possible extent.

This being true, we enquire whether physicians, when called to the bed-side of the sick, are justified in resorting to the unrestrained use of morphia, or other opiates, merely to relieve pain regardless of the ulterior consequences. It is doubtless true that the physician is oftentimes regarded as a wonderfully successful practitioner, because he removes or allays pain so quickly. Granting that he does that, as in modern practice is too often the case, where to gain a great reputation upon a small basis of actual skill, the morphinite is ready with his pop-gun hypodermic syringe, to inject his favorite drug under the skin. A wonderful machine is this syringe under certain circumstances, it is true; but it is not to be handled as though it would answer for the cure of all the ills that human flesh is heir to. I would be the last person to raise my voice against its proper use, when circumstances and the condition of the patient demand it at our hands. I would administer morphia hypodermically or by the mouth, for the relief of

pain, or for the procurement of rest, and thus come to the relief of nature, struggling, as it were under the burden of a heavy weight, by the removal of which recovery becomes possible.

Indeed, I will further say without fear or successful contradiction, that there is no drug or medicine in the whole catalogue of the Materia Medica more useful to relieve pain, or for many ailments, than opium and morphia. Rob the Materia Medica of these drugs and you would strike the vital blow to the successful practice of medicine, and disarm the profession of one of its greatest instrumentalities.

While all this is true and we admit the value of morphia as a remedy the administration of which oftentimes is necessary, and without which we might be deemed cruel, nevertheless how many times have medical men, especially those of long experience, witnessed in many instances the most unfortunate results. How many a life has been made miserable, and how many a sufferer becomes an object of pity for life. Yea, how many lives have been sacrificed under its indiscriminate use.

I venture to say that in many instances physicians are responsible. Many when summoned do not hesitate to bring forth their hypodermic syringe, inject morphia, no matter what the nature of the complaint may be, whether colic, sick stomach, lumbago, sciatic rheumatism, pain in the head, a fall, a bruise, or a cut of some trivial nature; when a mustard-plaster, the application of hot or cold water cloths, or the administration of effervescent magnesia, soda or salicylic acid would answer every purpose. It seems to be thought by many wiseacres that it is more impressive or fashionable at least to make display of their little pop-gun, and in goes the morphia. Perchance it affords relief at least of pain, but the unwary patient does not know all that is it to follow.

In many cases, the general excitement indeed is calmed, pain is diminished; a disinclination to muscular exertion is produced, and the force of external impressions on the senses diminished. The patient becomes indifferent and imagines himself better. Sleep and stupor follow, but on awakening

how deplorably wretched he feels. Headache, nausea, loss of appetite, the stoppage of the flow of urine, and disinclination to any active exertion follow, perhaps for days to come. In other persons more susceptible, the symptoms are even more violent, whether opium or morphia be given in the way of hypodermic injection, or administered in the way of powder, pill or mixture. It produces giddiness, an itching sensation about the nose, face and other parts of the body; stupor intervenes and perfect calmness. There may be warmth, sweat, redness and heat of the skin; but soon the stupor increases, slowness of breathing follows, the circulation becomes depressed; the pulse becomes more and more feeble; then are cold clammy sweat, general relaxations of the muscles, involuntary discharges from the bowels and urinary organs, contracted pupils; and death finally ensues.

I had supposed that that time had passed away when physicians would boast as I used to hear them long years ago, saying: "Give me opium and morphia in one of my vest-pockets, calomel, blue mass and the lancet in the other, and I am ready to combat any disease." That class of men, thank God, are very few now-a-days. While, however, many great errors heretofore held to in the practice of medicine have passed into oblivion, let me caution you not to fall in line and follow the foolish fashion so much practiced these later days by the carrying of a hypodermic syringe in your vest-pocket, making it a hobby, using morphia injection under the skin for any and every ailment. For this practice they are responsible for that morphinism which physicians meet with in their every-day practice. Patients finding oftentimes imaginary or temporary relief, again and again have the same remedy prescribed for them. Soon they will no longer consult a physician about its use, especially when they have been told how much to take or use. They will procure a hypodermic syringe and inject it themselves, on account of its exhilarating influence over them, making them talkative, "using their tongue as though it were loose at both ends;" their eyes sparkingly brilliant, a constant flow of thought, displaying oftentimes a wonderful degree of intelligence; their steps and bodily move-

ments like that of a youth, full of mirth and play. But how wretched and how changed when its effect is worn off; how sick and miserable the feelings! They evidently feel like the rooster that we sometimes see displayed at the head of a column in a newspaper over the defeat of some candidate for office on the day after election.

These miserable creatures, for such they are, have become so enslaved, even worse than by the shackles of slavery, that to live without it is death, and to continue its use is death. The once beautiful form, and well-balanced organism, all parts of their system in perfect symmetry and proportion, the bones, the flesh, the nerves, the blood-vessels, everything clearly, distinct and well defined—all the faculties of the mind well-trained and cultivated in the highest degree, how is it now? What has led to all this?

In view of all this, can we, as physicians, stand by and give no word of warning? Can we, as men, in whose charge is given the care of the sick, entrusted with the health and life of our fellow-men, we, who should further the best interests of society, can we, as physicians, I ask, be guilty of encouraging and sanctioning, and holding out the instrument which we know will bring about woe, misery and death? Physicians are in duty bound to know all the effects of remedial agents employed. They should never forget to enquire what effect medicines will have upon their patients in the way of combatting disease; whether it may not become the originator of morbid action, instead of controlling it. A correct knowledge of the drugs or medicines employed is highly important, as is also the knowledge how and when to use them. It is necessary to study and consider well the condition of the patient, never arriving at hasty conclusions without first knowing more about the different temperaments. In the administration of narcotics, more particularly opium or morphia, we find that when even given in minute doses we are apt to meet with disappointment, and the effect it has upon our patients is not always as we wish to find it.

Here I may be allowed to mention a case. A gentlemen whom I attended some eighteen months ago for a severe at-

tack of pneumonia. The patient was about fifty-six years of age, hearty, robust, of good habits, excellent physique, usually good health, and one of that class of persons we often times find most difficult to manage when sick. He suffered much pain; there were incessant cough and expectoration, and considerable fever. He was restless and could not sleep. To procure this the remedies used, tincture of Gelsemium, belladonna, Veratrum viride, Hyoscyamus, and the bromides, proved unavailing and about the night of the fifth day, from the time he became so very sick I gave two-fiftieths of a grain of sulphate of morphia "in granules," expecting that it would afford him some sleep. But on visiting him at an early hour the next morning, I found him stupefied, with small and feeble pulse, cold, clammy sweat, disinclination to take notice of anything, lying in a semi-unconscious state, which caused me a good deal of anxiety. I quietly kept my fears from the knowledge of his family and friends, but sought to overcome the difficulty by judicious treatment and the close watching necessary in such cases. In due time he rallied, and after along, hard-fought contest not only of lung-fever, but also, a very severe attack of erysipelas plegmonodes which followed, he made a good recovery, and is this day enjoying excellent health. I resolved never to give that man any more morphia. The effects are not alike in all cases; some become more wakeful and rest less if not delirious. Others become stupid, languid, and their whole organism becomes morbidly impaired; while again, others are greatly benefitted, procuring that oftentimes so much-needed rest and sleep, relieving pain and quieting distress, and many times making possible a recovery, when otherwise the result might have been fatal. So with the use of the hypodermic syringe. The injecting of morphia under the cuticle is oftentimes of great benefit and may afford quick relief. Yet in a large number of instances it would have been far better had it never been resorted to. Here is where so frequently great mischief is done. The patient finding quick relief, the physician flattering himself that it will be said that he has done most wonderful things, he allows himself to give way to the patient on return of pain. Soon the patient

gets into a habit, not only in the more frequent repetition, but also of increasing to larger doses, and he becomes a slave to its use, thinking that he cannot do without it. Having commenced with the eighth or quarter of a grain occasionally, he will use it now daily, repeating from one to three times a day, and that, too, not only increasing in frequent repetition, but also the largeness of the dose to from two to four, six and eight grains during the course of the day. He becomes careless, stupid, lazy and unfit for any duty. But let him take or use the usual amount of morphia, we notice a great change, and it is truly wonderful how quick he will rally, becoming brilliantly talkative, full of hilarity, and seemingly all goes well. When, however, the effect of the drug is worn off, he again begins to droop like a flower exposed to a hot summer's sun.

Not many months ago I was called to see a lady some one hundred and ten miles from where I reside. She was twenty-six years of age, and suffering with gastritis. She had been sick one week, and had previously been attended by a prominent physician of the place. Her stomach had rejected the least particle of food, liquid or medicine of any kind. The symptoms were attended with hiccough and constant pain in the epigastric region. While in this condition sulphate of morphia had been resorted to and applied hypodermically, and under its influence the stomach would seem quieted, and the patient suffer no pain. Her condition was precarious and her recovery was considered very doubtful. In consultation with the physician attending, and learning what the course of treatment had been, I at once objected to the further use of morphia. Assuming the further treatment of the case, by request, I ordered a sponge bath, with diluted alcohol, over the body as far as practicable, and applied mustard-plaster over the region of the stomach to the upper arms and calf of the legs. There had been no action of the bowels for days. I ordered an enema of tepid water and salt, and gave Aqueous Syrup, Rhei et Potassæ, ʒiijss., fluid extract Sennæ ʒss., mix. Dose, one teaspoonful every hour. The stomach retained this dose nicely. After three hours had passed I increased the dose

to two teaspoonfuls every two hours, and in about twelve hours it had operated sufficiently. At intervals I had the patient take of small portions of sugared brandy and water, oatmeal gruel, etc. On leaving I prescribed Fl. Ext. Anthemis Nob. flʒii., soft water, ℥iv. Dose two teaspoonfuls every two hours; also ordered that she be often sponged with spirits and water, and directed light diet in small quantities at a time, gradually increasing as the stomach would bear it. Convalesence was rapid. On the sixth day afterward I received a letter written by the invalid, now convalescent, to the effect that she was doing well, and thanked me for her speedy recovery. This case no doubt would have proved fatal if there had been no change of treatment.

A death lately occurred caused by use of morphia applied hypodermically in the city where I reside. In the month of October, 1882, a most estimable lady, the wife of one of our prominent physicians had been out calling upon some of her neighbors early in the afternoon. Returning home she complained of headache, which she was subject to at times, and at such times she had been relieved by the hypodermic use of sulphate of morphia. At this time she requested of her husband to administer the injection. He complied, but with some hesitancy. In about half an hour, her head still aching, she prevailed on him to inject more morphia. He did so, and left her, going to his office a short distance away. In less than half an hour he was summoned home, as she could not be aroused, but remained in a stupor, and like the flickering light, her life gently went out. At an early hour the next morning she was dead.

It was declared by the doctor that she did not get more than half of one grain, but that the syringe, however, was somewhat out of gauge, and she possibly might have received a little more. Certainly it was a most lamentable blunder and does not furnish a shadow of excuse.

We look upon a poor, miserable wretch, who has given away to debauchery and drink, with disgust and abhorence. Our pity and sympathy oftentimes goes out and we behold the misery which it inflicts upon kindred friends and society.

We look on with sorrow and pass resolutions in our medical societies to condemn the use of intoxicating liquors, many physicians pledging themselves to withhold it and not to prescribe nor allow its use in their practice. Nevertheless, the same men will prescribe morphia, opium, hydrate of chloral and its kindred preparations, and by so doing they excite and encourage a malady that is as dangerous and destructive as that induced by the use of spirituous drinks can possibly be. The difference is only the one makes a raving maniac, carrying snakes in his boots, causing the committing of murder and crime, sending men to the gallows and penitentiaries. The others the morphia and opium make their victims become downright fools in many instances, perfect blanks in this world ; fillingour insane asylums, bringing misery and despair, not only upon themselves, but on those with whom they associate, or are connected. In the face of all this let me conclude with a word of caution, which may be well worthy our honest consideration, and may be well formulated in a few words: "Use morphia but seldom ; and use as little as possible."

DIGITALIS WITH SUICIDAL INTENT.

By Robert A. Reid, M. D., Boston, Mass.

Every now and then emergent cases arise when the practitioner needs his wits about him, but we can imagine no circumstances which could be more painful than to be called to a case of poisoning, either intentional or accidental, and not know what to do ; for in such cases not only must the right thing be done, but it must be done quickly. Cases of cut-throat or suicidal attempts with morphia, strychnia, arsenic, or other well-known poisons, are not so very uncommon ; but the following case which came to our notice some months since is the only one, in our experience, where Digitalis had been employed as the instrument of death.

The would-be suicide was a woman, unmarried and about fifty years of age. She was exceedingly intelligent and till

the past few years had been greatly esteemed for admirable traits of character, as well as for rare personal charms. About five years prior to her rash attempt she had attended and cared most assiduously and tenderly for a sister who had died from phthisis; since which time she had been regard as decidedly "queer." The first manifestation of mental disturbance noticed, was her obstinate refusal to talk concerning the deceased sister, to whom she had been devotedly attached, or even to allude to her. She most adroitly evaded all attempts to lead her to in any way show that she remembered that such a person had existed. When her mother inquired, with a purpose, who had made a certain article of fancy-work, instead of replying: "Lucy"—the deceased sister—she would say; "It was made here in the house." Having never manifested anything more than similar eccentricities, refusing to see former friends, adopting a few set questions which she propounded each day to everyone whom she saw, she was not deemed "dangerous." Nevertheless, as a wise precaution, all articles which could be used for self-injury were kept from her, and she was never left alone.

Her mother, aged eighty-six years, was supposed to have fatty degeneration of the heart and suffered from occasional attacks of dyspnœa, and had been advised by her physician to procure a vial of tincture of Digitalis and take a few drops each day. This she had done at intervals for years, and apparently with more or less benefit. Watching the opportunity, the daughter obtained the bottle, a two-ounce vial, from the sideboard, and drained its contents. It is uncertain just what quantity was taken, but the vial was said to be full—probably about two ounces. When seen she was partially collapsed. The radical pulse was slow—about 30 per minute,—irregular and almost imperceptible. There were large alvine evacuations, nausea, vomiting, loss of vision, and faintness almost to syncope. The prospect altogether seemed a gloomy one, though complete restoration finally took place.

Such cases are not very common, and yet as Digitalis is used so commonly and carelessly, and has, as is admitted on all

hands, a cumulative action, the most alarming symptoms may arise without any warning and without increase of what was deemed a safe dose.

In such a case we should endeavor to wash out the stomach, hoping to remove any of the drug unabsorbed, or not yet ejected, if vomiting had occurred. Not every physician has a stomach-pump at hand, but an effectual substitute may be improvised by taking a piece of rubber-tubing a few feet long —five or six—and introducing one end into the stomach, the other end being held above the head, and water poured into it through a tin funnel, the spout of a coffee-pot, or other device. If, after the stomach is nearly full, the tube be pinched while distended with water, and the external end placed below the level of the stomach, it will act as a syphon and empty it. Nothing else being at hand an ordinary rubber enema-apparatus with a bulb in the centre, will fill the bill if the valves be removed, or, as is apt to be the case, they are out of order. A point worth remembering, when the pump itself is used, is that a little water should be introduced before an attempt is made to empty the stomach. Failing of any of these appliances, resort must be had to an emetic; and the question is seldom which is the best, but which can be first obtained. Some people vomit readily enough and with them a drink of tepid water and the introduction of the finger or a feather into the throat will answer; but most persons require something more, and in their cases mustard—a tablespoonful in a half-pint of water—will prove most useful, besides having the advantage of being always at hand.

Digitalis kills by paralysis, or spasm of the heart, which is found rigidly contracted. Stimulants, alcoholic and ethereal, are our best means of opposing this, and if not retained by the stomach they should be introduced into the rectum or injected subcutaneously. There is also a tendency to fatal syncope, which is especially apt to occur when the patient attempts to make any exertion, even to sit or stand up. In fact, patients under the full influence of Digitalis, which is sometimes purposely and unwisely (we think) induced, are only safe when in a horizontal posture, and this should be maintained for a time after all symptoms have subsided.

It is no easy matter to say positively what is the fatal dose of Digitalis, as much doubtless depends on the patient's age and condition, the condition of the stomach as regards food, the occurrence of copious and early emesis, and the strength of the preparation. The probabilities are that considerably less than two ounces will destroy life with much certainty, though this is not the only case where recovery has taken place after such a dose. No doubt Digitalis has its uses, but it also has its dangers, and in our opinion the latter far outweigh the former. We find it possible to practice without it.

ANCIENT NOTES ON CONVALLARIA MAJALIS. *

By RICHARD E. KUNZE, M. D., New York City.

The Lily of the Valley, for the past two years, at most, has attracted the general attention of the medical profession as a new (?) remedial agent. And while manufacturing druggists are straining their optics in the direction of the cardinal points of the compass, with a view of bringing to light some *new remedies*, when we come to study up some of their "finds," it is quite interesting to discover how very ancient indeed not a few of them seem to be.

This most delicate of early spring-flowering plants, is indigenous to both Europe and Northern Asia, and is much cultivated in every temperate clime as a garden plant. When on the twentieth day of May, the first bloom of some lilies of the valley growing in a modest corner of the garden back of my office greeted my sight for the first time this year, some of the earliest recollections of my boyish strolls in the Thuringian vales and on forest-clad knolls were vividly flashed before my mind again. And while contemplating, the thought struck me, that it would be an opportune time to write up an article in honor of this sweet emblem of innocence and modesty, a title which *Convallaria majalis* has earned for itself in the language of flowers.

To the little I personally know about this Lily of the Valley, I shall add much that was known to others centuries ago,

* Read at the West-Side Medical Society, June 7, 1883.

if only to verify Solomon's saying, that there is nothing new under the sun. After briefly referring to the æsthetic and economic value of this plant, I will give the popular side of the question so far as it relates to its medicinal value, and lastly, refer to a number of ancient herbalists, whose bones for centuries have rested under the sod.

For more than a year, medical journals have eagerly snatched up every article relating to this supposed *new remedy*, the same as a hungry dog would a bone without masticating, and still the hunger of our therapeutists seems not to be satisfied until everything shall be known about this agent. I shall soon expect to see them fight for the honor of having introduced so *old a remedy* into the New Continent, and I hope that no one will dispute the precedence of the most "Ancient of Schools" in that direction.

Convallaria Majalis L. inhabits the copses of vales and shady mountain slopes. In Germany, where it is known as the May-flower, May-bell, etc., on account of its flowering in May, little peasant-girls may be seen coming into towns and cities every morning, offering baskets full of this sweetest of all the lilies, tied up in large bunches, at less than one cent a bouquet, which here in New York would cost from half to one dollar each in a glut market of flowers. Hundreds of thousands of the roots of Lilies of the Valley (called "pips" by cultivators) are annually imported into this country from the Saxon duchies, to be forced into bloom for the holiday trade. At such a time of winter a single spray of this flower sells at florists' establishments at from fifteen to twenty-five cents apiece. But the plants are cultivated here, too, so that in some localities Convallaria Majalis, has escaped from the gardens and become naturalised like any other foreign intruder.

Poets have long sung the praises of this frail little plant, whose tiny, white, bell-shaped flowers adorn the forms of living as well as of departed friends.

"Ye loftier *Lilies*, bathed in morning's dew,
Of purity and innocence renew
Each lovely thought;—and ye, whose lowlier pride
In sweet seclusion seems to shrink from view—
You of *The Valley* named, no longer hide
Your blossoms meet to twine the brow of purest Bride."—*Barton*.

Even the Bible mentions a plant under the same name in Solomon's Song ii. 1, where our Saviour graciously speaks of himself as "The Lily of the Valley." But Callcott says, that Solomon's lily was another—the jonquil (*Narcissus Jonquilla*). It is well known that the air of the valleys of Palestine is laden with the odors of fair lilies.

German folk-lore dedicated our plant to the goddess *Ostara*, and the wearer of the innocent Lily of the Valley was supposed to be lucky in matters of love. And lovely forms still wear the same emblem to this day.

Dioscorides does not mention Convallaria Majalis; yet Zwinger thought, that the plant called *Ephemeron* in the former's *Herbal*, must have been our Lily of the Valley. But neither the description of his plant nor the properties which he assigns to it, make it the same.

Prof. Ritter von Perger of the Imperial Library of Vienna, says, that at a time when the poetical contemplation was on the wane and the signature of medicine seriously engaged the attention of mother "Old School," and when quackery was dominant, the beautiful Lily of the Valley ceased to be the chosen emblem of a goddess, and became the signature of Apoplexy, because "her flowers like drops hung downward." The flowers plucked before sunrise and covered with dew, were macerated in wine (Malvasier) and the preparation was then known as the celebrated *Aqua Apoplectica Hartmanni*. It is also stated in Gudrio's *Signatura*, Tours, 1659, that all bell-shaped flowers, such as Lilies of the Valley, are in sympathy with the head, and that they remove from the blood of the brain the gall or heat-producing principle.

Dr. Krebel, in *Volksmedicin verschiedener Vœlkerstæmme Russlands*, mentions that Convallaria Majalis is used for epilepsy in Russia. A quart-bottle is filled with the flowers covered with liquid, and then macerated in the sun for one week. The bottle is re-filled a second time, and both tinctures obtained are mixed. The dose is as many drops as the patient counts years, to be given in a spoonful of table-wine, mornings, fasting, and in the evening. No food is to be used for an hour before and after taking the medicine. All fat, acid, and salted

diet is to be avoided. If this procedure does not cure, then the same is to be repeated after one month.

While time is nothing to a Darwinian philosopher, it is everything to a speculator even of old and new drugs alike. In turning over the pages of some of the musty, worm-eaten vellums of my bookshelves, I was struck to observe what a cruel joke time had played our Old-School friends, the moss-grown memories of some of whom could not be freshened into any new ideas. Bourbons that they are in Medical Bigotry, intolerance and practical innovations, it would be to their credit if they availed themselves of the mnemonic properties of Convallaria Majalis. Their blissful ignorance of ancient therapeutics (no one accuses them of a knowledge of the modern) might then pass more readily into oblivion ; and in a future paper I will give a few mnemonic formula of ancient date for just such fossilised dogmatics.

The entire body of *liberal* (?) and illiberal Old-School physicians of the State of New York, in their crusade against the United States Medical College of this city, has practically declared, that medicine is not a science; or in other words, that the act incorporating scientific colleges does not include "medical" in the strict meaning of the term. The time will come when that same school would wish to have that part of their record passed into oblivion too.

Dioscorides does not mention Convallaria Majalis, but the Galenists were better acquainted with its properties. When that bombastic Calomelist, Paracelsus, who made his debut about the time of the discovery of America, introduced chemicals to the exclusion of many well-tried vegetable medicines, the Lily of the Valley was again taken charge of and held in high esteem by the Herbalists of later centuries.

In the following works, which are before me, occur many passages peculiarly interesting just now. For instance, in the *Kreuterbuch* of Joannes Cuba, printed at Strasburg, 1521, it is stated, that *Lilium convallium*, or Lily of the Valley, is of a cold and moist nature. The flowers are better than the plant, and the roots better than the blossoms. The flowers distilled with wine, and then mixed with a few peppers and

lavender water, constitute an antidote for apoplexy. If the frontal and occipital regions of the head are rubbed with this wine, it begets sound reasoning.

In the *New Kræuterbuch* of L. Fuchs, Basel, 1543, it is claimed that the virtues of Lilium convallium are of a mixed nature. The plant has cathartic properties. The root is astringent. The flowers and leaves, which taste bitter, are discutient. A decoction of the roots held in the mouth banishes toothache. The leaves boiled in wine and applied to the parts, helps to discuss swellings. The juice of the flowers strengthens the heart, brain and liver. But the entire plant acts much the best *for the same trouble.**

It is particularly useful in syncope, dizziness and epilepsy.

Herr von Bock's *Kræuterbuch*, Strasburg, 1580, also claims that the flowers are good for syncope, apoplexy, dizziness, epilepsy, colic, poison, weak heart and memory. The distilled water of the flowers, when applied to the eyes, removes inflammation.

D. Rembert Dodœns' *New Herbal*, London, 1619, describes the Lily of the Valley under the name of *Lilium convallium* or May-lily, May-blossoms, etc., and he says: "They write that the water of the floures of Lily convall., distilled with good, strong wine, and drunken in the quantitie of a spoonful restoreth speech to them that are fallen into the Apoplexie, and that it is good for them that have the Paulsie, and the Gout, and it comforts the heart. The same water, as they say, doth strengthen the memorie, and restoreth it againe to his naturall vigor, when through sicknesse it is diminished. Besides this, they say also, that it is good to be dropped in against the inflammation and watering of the eyes."

Theo. Zwinger, in his *Theatrum Botanicum*, Basel, 1696, calls this plant *Lilium convallium* album or *L. convallium vulgo.* And he says: there is also one with red flowers—Lilium convallium flore rubente, and another, the great May-Flower—Lilium convallium magnum and L. convallium Alpinum. The flowers contain a volatile salt, an oleo-balsamic property, and they are sharply bitter and stimulant. They

* The italics are mine.—K.

strengthen the brain and nerves and constitute a good cephalicum. The roots are seldom used. Against the pains of podagra, Camerarius recommends the following: A bottle is filled with the flowers of the Lily of the Valley, well corked and then buried in an ant-hill. After remaining there one month, a thick juice, resembling oil, is found in the bottle, which is rubbed to parts affected with podagra. It is also applied to the abdomen, for intestinal colic of children. It may also be applied to eruptions of the skin.

Following in the wake of his predecessors, Zwinger recommends the distilled water of Lily-of-the-Valley-flowers not only for the ailments already mentioned, but also as a good parturient, and vermifuge for children. He also prepares a confection of the flowers, to be used against weak heart, syncope, epilepsy and other affections.

The quintessence of Lily of the Valley is made by macerating the flowers with an essence of the same prepared a year previous, and known as Spiritus Lil. convall. per fermentationem.

This latter is obtained from the flowers first fermented with the aid of leaven, and afterward distilled. Among other things, it is good for palsy and hypochondriasis, and it may be used both internally and externally. To crown all, he orders this quaintessence to be used by certain husbands as an aphrodisiac! A few drops mixed with honey, and placed on the tongue, restores lost speech. (What a boon to gossiping society!) A few drops on cotton and placed in the ear, removes the ringing and buzzing of that organ, and cures deafness.

He also orders preparations from the flowers to be made with whiskey, wine and vinegar. A cephalic snuff, containing many ingredients, is also spoken of. Quite a good many celebrated private formulæ, used by certain counts and public unctionaries are then given, which however are too lengthy for this paper. I should advise all dealers in nostrums to get a copy of Zwinger's *Herbal*, because there may be "millions in it." Dr. Zwinger enjoyed a position as regular professor in the University of Basel, Switzerland.

In Thomas Pancovius' *Herbarium Portatile*, Berlin, 1654, it is stated that the temperature of the Lily of the Valley is of a hot and dry nature. Among other things claimed for it, it will restore the poor quality of the milk of nursing women, and is said to be a good nervine in cases of tremulousness.

Robert Lovell's *Compleat Herball*, printed at Oxford, 1665, confirms much of what has already been said about Lilium convallium, which he calls *Lilly in* the Valley.

In *Weymarisches Artzney-Buch*, a kind of Thuringian Practice of Medicine, published in Leipsic, 1678, the flowers of Lilium convallium, prepared with wine, form the principal ingredient in a number of formulæ, which are recommended for apoplexy, epilepsy and other diseases.

Even Theophrastus and Plinius have been accredited with the recommending of Lily of the Valley as a medicine.

But Pliny does not describe our plant at all. In the early days of printing and wood engraving, it was not an uncommon thing to have the wood-cut of a plant belonging to another than the one described in the text, appear on the pages of a book. For similar reasons, Hemerocallis, a true bulbous plant, belonging to the Liliaceæ, had been described as the Lily of the Valley.

Discarding all the authorities of the next two centuries, I will now relate what the people of Germany use Lily of the Valley in domestic practice for. The dried flowers, rubbed fine like snuff, constitute a good cephalic in chronic catarrh. In action they resemble an errhine, causing sneezing. The dried flowers are nearly devoid of fragrance, resembling in this behavior the otherwise beautiful Night-blooming Cereus (*C. grandiflorus*), which, like the Convallaria flowers, does not impart its delicate odor to alcohol, nor retain its fragrance when dried.

Prof. Artus' "*Hand Atlas of Medicinal Plants*," Jena, 1876, quotes the flowers of Convallaria majalis, as an officinal drug. He says that they contain an ethereal oil. Used as a snuff, they favor secretion of mucus from the membranes of the nares, and form an ingredient of *Pulvis Sternutatorius*. The flowers are also employed against cramp of the bowels (colic).

A vinegar of the flowers is used as a revivant in syncope, and as an embrocation. The extract is cathartic in action. The bitter, red berries, Baccæ Lilii convallii, were used in epilepsy and intermittents.

According to Loudan, a beautiful and durable green color may be obtained from the leaves with lime. The extract prepared from the flowers and roots partakes of the bitterness and purgative properties of aloes.

Cultivation has resulted in the production of a red-flowered variety, a double-white, a double-red, and a variegated leaved variety of Convallaria majalis.

Now let me consider for a few moments the researches of modern therapeutists regarding the properties of Convallaria majalis, which has been critically studied by Russian, German and French savants during the last two years. At first it was claimed that the flowers alone acted as a cardiac stimulant; and now the assertion comes that by far the best results have been obtained with tinctures, wines and extracts prepared from the flowers, flower-stalks, leaves and even the roots. Others insist that the flowers and leaves alone make the best preparation for cardiac difficulties, and that it is a safer remedy than Digitalis, and fully as potent in controlling the heart's action.

In Europe it seems an aqueous extract has given the best satisfaction, while here in the Roosevelt Hospital of this city, a fluid extract of the flowers has given entire satisfaction in cases which otherwise would have been treated with Digitalis alone. The dose used has been from five to sixty minims without any unpleasant results, nausea occurring only in a few cases treated.

Several alkaloids have been found in Convallaria majalis. It is claimed that Walz, in 1858, found two glucosides in this plant, named by him *Convallarin* and *Convallamarin*.

The *Convallarin* in doses of three to four grains, acted as a cathartic only, whereas the *Couvallamarin*, subcutaneously injected into small animals, acted as a decided cardiac poison. The toxic dose for dogs was from seven to ten milligrams; for

cats from three to eight milligrams. Marme conducted those physiological experiments as long ago as 1867.

Convallarin is soluble in alcohol, but not in water. *Convallamarin* dissolves in water as well as in alcohol, but is insoluble in ether or chloroform.

M. Stanislas Martin is accredited with having found an alkaloid in the fresh flowers, which was by him named *Maialine.* C. Tauret claims that this body could have nothing to do with the activity of the rest of the plant, as he failed to find it either in the leaves, stalks or roots.

Dr. Hardy is acknowledged to have isolated from the flowers an alkaloid which he called *Convallarine*, a bitter glucoside, which acted well in enfeebled circulation, in fact resembling Digitalis. Prof. See, of Paris, employed an aqueous extract of the leaves, flowers and of the whole plant. He finds that the aqueous infusion of either the leaves or the flowers gives satisfactory results in cardiac trouble. In cardiac dropsy he finds it an excellent remedy.

You will remember that the Russian peasants centuries ago used it for dropsy. Prof. Botkin, of St. Petersburg, has confirmed the researches made by two other Russian physicians, who recently experimented with it in cardiac disease.

Another medicine has recently been added to the Pharmacopœia Medica by Prof. See, of Paris, which resembles Digitalis in its beneficial effects with none of the dangerous tendencies of the latter. It is an alkaloid of the common Lily of the Valley, and has been named *Convallarine*, from the botanical name of the flower, Convallaria majalis. It acts upon the heart, decreasing miraculously the number of beats to the minute.

Dr. B. Stiller, in a medical journal published in Vienna, gives the negative results obtained in using Convallaria majalis for cardiac affections. Out of twenty-one motley cases treated, seventeen were absolutely *not* benefited by this medicine, and some of the negative cases were afterwards relieved by Digitalis.

While the foreign, and in part our American medical journals, are considerably excited over the action of Convallaria

majalis, the question naturally arises, whether there is really anything new in the discussion of the whole subject. Space does not permit me to copy more extensively from my ancient vellums. But does it not look as though the Old School had only just begun where the ancients, centuries ago, left off?

Two closely allied agents, botanically speaking, are *Convallaria polygonatum* or Solomon's Seal, and *Convallaria multiflora* or Giant Solomon's Seal. In regard to Solomon's Seal, John E. Sowerby, an English authority, informs us, that the curious name of this herb is said to be derived from the section of the root exhibiting marks resembling Hebrew characters.

The properties of these two species, now classified under a separate genus, that of *Polygonatum*, appear to be emetic, cathartic, and diuretic, according to the dose used. The roots have long been used by pugilists, in the shape of a poultice, in that peculiar ecchymosis sometimes appearing under the eyes, and to which Gerarde, the quaint old herbalist, refers by saying, that it would remove "any bruise, blacke or blue spotts, gotten by falls, or woman's wilfulnesse in stumbling on their hastie huband's fists, or such like."

OZONE:

ITS MERITS AS A DISINFECTANT, ANTISEPTIC AND ANTIZYMOTIC.

By G. HERMANN MERKEL, M. D., Boston, Mass.

Ozone has engaged the attention of the most expert among the savants of Europe for almost half a century. The discovery of oxygen by Joseph Priestly in 1774 had given a soul to chemical science, before that a mere grouping of empirical observations; and the fresh impulse set investigation into active motion all over the continent. The "vital air" which Dr. Priestly had exhibited was made the subject of numerous experiments in the various countries. It was impossible, therefore, that the existence of Ozone should not be foremost

among the demonstrations of the new chemistry. In 1785 Van Marum, of Holland, passed an electric current through oxygen gas, and perceived that it acquired thereby a peculiar odor and the power of oxidising murcury. Cavallo discovered that this electrified oxygen, or "electric aura" as he styled it, had a purifying effect on animal and vegetable matter, and used it as a disinfecting application to fœtid ulcers. Dr. John Davy, in 1826, formally recognised it as a principle in the atmosphere, and thus gave it a place within the scientific household.

Schonbein, of Basle, however, Professor of Chemistry at the University, gave to Ozone its "local habitation and a name," in 1840. He first imagined that it was a body which combined with hydrogen to constitute nitrogen. This was disproved by other experimenters, who showed that the peculiar odor was produced by the decomposition of water alone, and that Ozone was but oxygen in an allotropic form. Berzelius was decided in this judgment. Schonbein was unwilling to believe this, and contended first that it was a hydrogen hyperoxid, HO_2, and afterward HO_3. This was subsequently shown to be incorrect; and finally Andrews, in 1856, demonstrated that Ozone however found is identical in its nature, entirely distinct from hydrogen; and likewise that oxygen is converted into it by means of the electric spark, and undergoes thereby condensation and reduction of volume.

Dr. Odling propounded the explanation, that Ozone was formed by the molecule of oxygen O_2 united with an additional atom, O_2 plus O or O_3. Its formation, he believed, simply means the condensing of oxygen into two-thirds of its former volume. The oxidising power which Ozone possesses, is thus explained by the well-known fact in chemistry, that molecules part with facility with their superabundant constituents. Housewives using cream of tartar to raise their dough, are profiting from this idea. The heating of ozonised oxygen will cause the oxygen to resume its original molecular dimensions, and part with the additional atoms; which will then in their turn, being in the nascent condition, form new unions readily with whatever substance may be contiguous. In our

present state of knowledge, therefore, Ozone is defined as simply a condensed or allotropic form of oxygen, and that each is convertible into the other.

OZONE ANCIENTLY MISTAKEN FOR SULPHUR.

Many of the former conjectures in regard to this substance are very amusing. Travellers have noticed the peculiar odor during periods of electric disturbance of the atmosphere, and the ancients regarded it as actually sulphurous. Homer repeatedly mentions objects which had been struck by lightning, from which, he declares: "the smell of smoking sulphur rises." The thunderbolt was regarded as constituted of fire and brimstone, and was represented as the weapon of the gods. In the *Iliad* a bolt is represented "with the flame of burning sulphur" striking a ship. The destruction of Sodom and other cities on the site of the Dead Sea was doubtless thus occasioned; the naphtha-deposit thus set on fire affording a receptacle for the waters of the river Jordan which had before flowed over and to the Gulf of Akiha. The prophet Isaiah also speaks of the *tophet* or crematory prepared for the King of Assyria, and adds: "The breath of the Lord like a stream of brimstone doth kindle it." In strict accordance with this sentiment sulphur bore the name of *theion* in Greek, the divine substance.

Phosphorus, however, and even chlorine have been included in the conjecture of being a celestial or atmospheric product. It may add somewhat of plausibility, that these elements were often employed by experimenters in the generating of Ozone.

It has also been conjectured that Ozone rendered atmospheric air unwholesome, and predisposed to epidemics of cholera, yellow fever, etc. The later evidence has proved the exact reverse—that it destroys the causes of contagious and zymotic disease.

OZONE IN THE ATMOSPHERE.

The presence of Ozone in the atmospheric air was at first disputed and denied. Professor Andrews, of Belfast, made several experiments in 1867 which seem to have been conclusive. M. Houzeau had declared that Ozone and hydrogen peroxide

only could decompose the neutral potassium iodide ; but Andrews demonstrated that the body in the atmosphere that did this is identical with Ozone. Dr. C. B. Fox, of the Royal College of Physicians, London, repeated the various experiments of his predecessors, and declares the matter placed beyond a doubt. Observation shows that Ozone is more abundant at a distance than near the earth's surface. Seaside places are visited by a greater quantity when the winds blow from the sea, than when they proceed from the land ; the sea being a great manufactory of allotropic oxygen. There is usually a greater development in February and May than in other months ; autumn having the least. A large fall of rain is characterised by the increase ; and the amount has been thought to be greater when we have a new or full moon than during the first and third quarters. In eclipses the amount is often very large, but in earthquakes the reverse is the case. In short, Ozone is contained in the air in larger quantity in winter and spring than during the summer and autumnal months. The frequent storms and maximum of electricity with low temperature and activity of vegetation in spring, are doubtless the occasion of this larger amount ; while the higher temperature, the decomposition of animal and vegetable matter, and the minimum of electricity in the lower strata of the atmosphere are causes of its diminution at other periods of the year.

"Ozone is found in greater abundance," says Dr. Fox, "in pure country-air than in impure town-air, on mountains than in valleys, at the seaside than inland, in well-drained and ventilated towns than in those where these important sanitary matters are neglected." It is the great deodorising and purifying principle of nature, and therefore is consumed in the oxidation of the noxious exhalations, where human beings are closely aggregated together. Here Dr. Shapter could find little in the city of Exeter, in England, and Dr. Angus Smith could find none in the air of Manchester. Dr. C. Evans observed that the northeast wind which reached Hackney from the country was highly charged with Ozone, but on arriving at Fulham, after having crossed London, had lost nearly all traces of this substance. On the other hand, the southwest

wind arriving at Fulham was rich with it, but on reaching Hackney, after passing London, was almost destitute of it. Lyons, in France, has been named "the town without Ozone." At Geneva and Chamouni the quantity is very large. Dr. Wetherill ascertained that the air of the public grounds at Washington yielded an abundance of Ozone at night, while that of the streets of the city, at the same time, indicated an absence of this gas. At seaside stations there is an enormous amount.

The municipal body of Paris organised a series of daily observations in 1866 and 1867, in the various arrondissements of that city, with most significant results. I extract the following as most instructive:

At Passy, near resinous trees, the mean was 6.39; at La Villette, close to a quay on the Seine, 0.96; at Menilmontant, near a tallow manufactory, 1.16; at Fountaine-Moliere, almost directly over a public urinal, 0.38; at the Ecole de Medicine, close to an hospital, 0.80; at Rue Racine, near a reservoir, 1.69; at the Reservoir de Vaugirard, 8.37; at La Chapelle, close to Artesian wells, 3.08, and at Butte-aux-Cailles also near such wells, 4.79.

Professor Heaton and others declare that Ozone is always absent from the air of an inhabited room, even though the window is open. This, however, is disputed. It has also been declared by the best continental authorities to be almost entirely absent from the air of hospitals, especially of those devoted to fever patients. Means for its artificial generation have been accordingly suggested.

The preponderance of Ozone in sea-winds has been noted in various parts of the world. Admiral Fitzroy lays down the rule in the *Weather-Book* that the winds which accompany the greatest indications of Ozone are those which blow from the nearest and largest sea. Tests were said to read about one-third higher when sea-winds blow than during the prevalence of land-winds.

M. Morin explains that the pulverising of water, as into the form of spray, is always accompanied by the development of Ozone. This change in the condition of the air, it will be remembered, is largely produced by passing the electric current

through it. That electricity is developed in sensible quantities in the neighborhood of waterfalls, and in large amount on the sea-shore, particularly when the waves dash themselves violently against the rocks creating much spray, is well known.

Sea-water also holds in solution about one-thirtieth of its volume of air. It has been shown that this air contains 32 per cent. of oxygen, whereas the air over land has only 21 per cent.

Plants evolve Ozone from their leaves and green parts, and set more free during the daytime than can be found in the air about them. The same thing is also true during the night when they grow thickly and vigorously, but not in the case of isolated vegetation. Plants growing in the country give off more Oxone during the day than town-plants. In the midst of towns and a dense population, night-air exhibits a larger proportion than day-air; but as the animal population diminishes and the vegetable kingdom predominates, the daily supply is increased till it exceeds that of the night. The interiors of the corollas of plants do not produce it.

Dr. Danberry, following up these experiments, concluded that atmospheric Ozone was due almost entirely to plants, being generated by the green parts during the day while emitting oxygen; the flowers producing none.

PERFUME OF PLANTS A GENERATOR OF OZONE.

The disciples of the philosopher Empedokles planted aromatic and balsamic herbs as prophylactics against pestilence. The researches of modern observers appear to justify their notion. Lawes, Gilbert and Pugh have attributed the production of Ozone in vegetation rather to the intense effect of the atmospheric oxygen upon the minute quantities of volatile hydrocarbons evolved by the plants, than to any action within the cells. Montegazza states that odoriferous flowers discharge a large quantity, but flowers without perfume are destitute of it. Cherry-laurel, clover, lavender, mint, lemon, fennel, develop it largely in the sunshine; so do the flowers of heliotrope, narcissus, hyacinth and mignonette, as well as the essential oils, such as nutmeg, aniseed, thyme, pepper-

mint, etc. Ancient physicians regarded the odor of laurel as a disinfectant. They seem to have been correct. The sunflower is also said to exhale Ozone in large quantities; and Dr. J. Murray even attributed this virtue to the aroma of powdered tobacco.

OZONE FROM ATMOSPHERIC ELECTRICITY.

Faraday has shown that the friction of water-drops against all bodies develops in them a most powerful charge of negative electricity. Doubtless the contact with the air has the like influence. Volta found it to be produced by allowing the fine spray of a fountain to fall on the plate of a straw electroscope. Humboldt observed that the spray of a waterfall or a lofty cascade filled the air of the neighborhood with negative electricity, which can be detected at three or four hundred feet distant. As electric discharges are incessantly taking place the production of Ozone is therefore constantly maintained,

Saint Pierre ascertained that Ozone was developed by the mechanical action of blowing machines and ventilators producing strong currents. This fact, he suggests, may account for the healthy action of winds. Perhaps the attrition of the particles of air against each other has the same effect. Storms, tempests, hurricanes and water-spouts are all active in this way, and so beneficial.

OZONE IN EPIDEMIC.

Different opinions have been given in regard to the influence of atmospheric Ozone upon the public health. Dr. Tripe declared that during the seven weeks of the last quarter of the year 1857, no Ozone was present at Hackney, and that notwithstanding there was no disease prevalent during that period, and the mortality was below the average; while London had five per cent. in excess at the same time. Other writers have also conjectured that cholera years were characterised by an excess.

More extensive observations, however, seem to have utterly dissipated these opinions. The members of the Scottish Meteorological Society carried out a series of observations in one

of the suburbs of Edinburgh, and perceived that when the largest quantities of Ozone were obtained "the air had a pleasant sharpness to the feelings, exercising, as it were, a stimulating influence on the spirits. When on the other hand, the air was close and seemed to exert a slightly-depressing effect, little if any Ozone was detected." Schonbein declared his belief that a deficiency of Ozone or an excessive production of miasmatic matters in the atmosphere, favors the propagation of epidemic diseases; mentioning in corroboration that Ozone is most abundant in winter when zymotic diseases are least plentiful. It would be necessary, however, to show whether it affects the poisons which generate them. We know that it will destroy noxious odors; but can putrescent emanations produce a disease? The earlier comparisons between the prevalence of cholera and the presence of Ozone in the atmosphere, appear to have exhibited contradictory results. The outbreak generally took place when the quantity of Ozone approximated a minimum, but its increase did not seem to have a decided influence in the way of arresting the progress of the visitation. In catarrhal and pulmonary disorders, atmospheric Ozone appears to be of little benefit in advanced stages, but highly beneficial at first. Catarrh and influenza are seldom experienced in an atmosphere highly ozonised. Tubercle will be removed by the constant contact of air in this condition. Rheumatism is also radically cured.

MALARIA.

The Rev. Henry Ward Beecher declares that malaria is like a heavy wet blanket thrown over the medical profession. It is certainly a convenient term to use, when something must be said to show people that the physician knows something, and the rationality of it is not in question. True, nevertheless, that no malarious air has ever disclosed other elements than the common atmosphere. The chilly evenings succeeding to sultry debilitating days check the insensible perspiration, leaving the body loaded with its own poison, which is worse than any thing often found in the external air. The Roman Campagna can be safely visited by any body properly dressed.

Yet account should be taken of the fact that in damp atmospheres, and where there is decay going on, the oxygen of the air is steadily undergoing an electric change and parting with its superabundant particles which had constituted it Ozone. This indicates that there may be really a malarial condition of the atmosphere, and that it is coincident with a deficiency of electrified oxygen. The observations of Clemens, Schonbein, Berigny, Hammond, Billard and T. Boeckel tend to show that the quantity of Ozone in the atmosphere and the prevalence of diseases termed malarious bear an immense proportion; likewise that this is the case not only in point of time, but also in respect to locality. Dr. Boeckel, indeed, has observed that the malarial fevers only reign when the Ozonometer indicates zero. Dr. S. Gaillard has also noticed a similar relationship between the presence of Ozone in the air and the appearance of intermittent and bilious remittent fevers. M. Wolf, of Berne, observed that a rapid diminution in the quantity of Ozone is followed by considerable increase in the mortality. During an epidemic of dysentery which prevailed there in August and September, 1855, the energy of the disease appeared to augment or diminish with the quantity of Ozone.

Dr. Ross, medical officer of health for St. Giles', London, found that during an outbreak of relapsing fever the amount decreased in the atmosphere as the mortality from the disease was greater; and at Salford, it was remarked in 1869, that "as the amount of Ozone decreased, the seizures in measles, scarlatina, typhus and continued fever increased."

In short, a deficiency of Ozone in the air predisposes to disease, particularly of the epidemic form, by reason of the depressing and debilitating effects of such air, in consequence of its feeble powers for oxidising animal *debris;* a permanent diminution in the normal amount probably favors the development of chronic diseases characterised by mal-nutrition, imperfect oxidation and degeneration of tissues.

Dr. Fox describes it as "vital air" *plus* force, that decomposes some of the offensive and deleterious products of putrefaction, and has important functions to perform in nature. In

his work on the subject he presents a summary of its uses in the arts and industries; adding the remark that the salubrity of a town or city may be pretty accurately estimated by the effects of its air upon ozonoscopes. "Ozone," he goes on to say, "is a deodorising and purifying agent of the highest order resolving and decomposing into primitive and innocuous forms. It should be pumped into our mines and cities, and be diffused through fever-wards, sick-rooms, the crowded localities of the poor, or wherever the active power of the air is reduced and poisons are generated. Its employment is especially demanded in our hospitals, situated as they mostly are in densely-populated districts, where the atmosphere is nearly always polluted by re-breathed air, decomposing substances and their products, and where no mere ventilation can be fully effective. If practicable it would be highly advantageous to direct streams of sea-air, or air artificially ozonised, into the fever and cholera nests of our towns."

OZONE AS A REMEDIAL AGENT.

The European continental savants have been active in their explorations to ascertain whether Ozone can be employed to advantage as a curative agent. Its solubility in water was naturally considered as essential for this purpose. Schonbein demonstrated accordingly by actual experiment that this could be effected. Water was so thoroughly impregnated with Ozone as to dispose entirely of noxious decomposing matters, thus restoring it to a normal condition. Other chemists concurred with him. Professor A. W. Hoffman, of Berlin, and Professor Carius, of Marburg, the most accomplished expert in such matters in all Germany, were employed to review the matter. Their report established the conclusion undeniably that Ozone is absorbed by water.

In December, 1872, the Medical Society of Berlin memorialised the Imperial Commissioners for Religious and Medical Affairs of North Germany, in regard to the matter. It was done, and the Ozone water was tested in every way that could be imagined. Crucial tests were made both chemically and clinically, in the fever-wards of hospitals and in malarious

and infected districts. The results were successful and convincing. Ozone water was found effective as a preventive and curative agent in contagious diseases of all kinds, and especially in malignant diphtheria. typhus, and acute rheumatism, and to be a specific for chronic affections of the heart and their sequelæ.

The Faculte de Medecin of France has since recognised these facts and assigned Ozone water a place in their *Pharmacopœia* not only for those diseases, but also for bronchial affections, croup, whooping-cough, etc.

The following extract from an editorial article in the Boston *Journal* of August 8th, 1883, is a succinct statement of the matter, and though by a secular writer, I will copy it as expressive of what we have to say:

"It is impregnated with Ozone, or condensed oxygen. This preparation is useful, according to the amount of Ozone it contains, for table use, and as a common beverage, being of an excellent dietetic quality; as a tonic in convalescence, after long and exhausting illness, eradicating traces of the disease from which the patient has suffered; and, in its most concentrated form, as a medicine, when it should be employed under the advice and direction of a physician. As a medicine, its action is immediate and intense; and, in many cases, its use will obviate the necessity for other medicines. Its action as a medicine is to clear the system of impurities; and the class of diseases which it reaches is therefore a very large one, including all which result from any contamination of the blood. In Continental Europe, it has already been successfully introduced and adopted in regular practice; and several eminent physicians abroad have expressed the opinion that Ozone is to be an important factor in the medical practice of the future."

It is now claimed that such disorders as Bright's disease, diabetes, rheumatism, intermittent and other fevers, usually ascribed to a malarial origin, nervous prostration in its various forms, impetigo and other skin-diseases, chlorosis, and the various female complaints, and other disorders resulting from impurity of the blood, imperfect digestion and assimilation, defective and faulty innervation, are successfully treated with Ozone water prescribed by a competent and judicious physician.

German physicians eminent in the profession in their own

country have increased the list of maladies thus curable. Corup-Bessner asserts that in diabetes, gout, jaundice and kindred ailments, Ozone water is not only infallible but indispensable. Dr. Lenders, district physician in Berlin, employed it successfully for intermittent and remittent fevers, typhoid, typhus, tuberculosis, bronchial catarrh, anæmia, chlorosis, septicæmia, pyæmia, puerperal fever, chronic affections of the heart, and other diseases occasioned by imperfect oxygenation of the blood. He cites several cases of Gangrene occuring after surgical operations. A course of the Ozone treatment had a most extraordinary effect on the spinal cord and nervous system generally. One case of locomotor ataxia, or *tabes dorsalis*, in which strychnia and argentum nitricum had proved utterly ineffectual, was successfully treated with Ozone water. The patient recovered rapidly.

The French Medical Faculty, and in particular Drs. Langier and Fougeras, have employed Ozone and oxygenated prepartions as an antiseptic in gangrenous wounds and specific ulcers, with successful results that seemed almost miraculous. Brillot, another eminent writer, testifies especially to the facts educed by his own experience, that Ozone water is an efficient antipyretic, and that it will effectually preserve animal and vegetable matter from decay.

Dr. Golden, of St. Thomas Hospital, London, declares in an official report that, in a case under his charge, a putrescent syphilitic ulcer of long standing, on the back of the palate, was entirely cured by Ozone applied externally and administered internally.

Dr. Fieber, Professor and Tutor in Ordinary at the Imperial Hospital in Vienna, and Director of the Department for Nervous, Laryngeal and Thoracic Diseases, at the Mariahilf Ambulatorium, recommends Ozone water, in the most unequivocal terms, as an unfailing remedy in neuralgia, nervous and exhaustive diseases, dyspepsia, sleeplessness, diabetes and obesity.

Professor Preyer, of Jena, administered prussic acid to a large number of animals and purposely deferred the use of Ozone till the apparent symptoms of dying were present.

Immediately upon the application of the remedy they recovered completely from the toxic influence. When administered by inhalation it is a remedy for asphyxia and strangulation by drowning, coal or sewer-gas, etc.; and also in the syncope occasioned by the action of chloroform and ether.

DISEASES OF THE BRAIN AND SPINAL CORD.

The most conclusive evidence of the value of Ozone water, in disease of the brain and spinal cord, is given by Dr. Wilhelm Waldmann, Chief Physician in Berlin, in his celebrated treatise on *Oxygen and Ozone*, page 22. He had been afflicted for many years with an affection of the spinal cord and hemiplegia, the result of chronic spinal meningitis. He lost entirely the use of the lower extremities, and for two years was wheeled about in an invalid chair. He was induced to give a fair and patient trial to Ozone water, and thus states the result: "The first effects of the Ozone in me, as in all the cases in my private practice in which I have since made use of that remedy, was a peculiar sensation in the stomach, caused by its special influence on the *vagus* nerve. It was as though the entire abdominal viscera had been set in motion. My appetite rapidly increased, and I could take larger quantities of food without distressing the stomach or digestive organs. The sleeplessness disappeared, and I could now sleep soundly and uninterruptedly all night. My health was restored, and my spirits and mental faculties became again bouyant and vigorous. I had an intense desire to resume my correspondence and literary labor, and was able to walk a few steps at a time, at brief intervals. After persevering four weeks with this Ozone treatment, the power of locomotion was so remarkably increased that I could walk a long distance with comfort and without fatigue."

Prof. Waldmann also cites another example. A Mr. X., fifty years of age, had suffered from disease of the spinal cord, with the usual accompaniment of facial neuralgia, for more than twenty years. He had tried every known remedy without relief. He was placed under the Ozone treatment, employing inhalation and internal administration. He very

shortly experienced results like those of Dr. Waldmann, the disappearance of all symptoms, and entire restoration to health. The Professor reports likewise the case of a lady. Mrs. Y., aged twenty-nine, was suffering from anæmia and very nervous. She also exhibited symptoms of chronic catarrh of the lungs also inclining to tuberculosis, emaciation, cough and headache. All these disappeared under the Ozone treatment. Dr. Waldmann strongly recommends the treatment in all bodily ailments, whether acute or chronic, especially during the winter, when patients are obliged to keep their rooms, and are precluded from exercising in the open air. He asserts with great emphasis that the most aggravated nervous disorders can be subdued and natural sleep secured.

CASES WITHIN MY OWN KNOWLEDGE.

I. R. H. D., of Boston, began the use under my direction in February, 1883. He had been troubled with rheumatism all winter in his arms and shoulders, could not put on his coat without help, and was often disabled from business. In one month he exhibited a marked improvement, and two months later he was well.

II. T. B., also of Boston, had suffered from rheumatism for ten years. In November, 1882, I began his treatment and he recovered in six months.

III. W. M. B., a sufferer from rheumatism and blood-poisoning by inoculation, began the use of Ozone water in February, and soon found his health improved, and his sufferings greatly diminished.

IV. Hon. William D. Parks, late member of the Senate of Massachusetts, had intermittent and remittent fever. He had been an invalid for ten years or more suffering from sleeplessness, emaciation and almost total indigestion. I put him on the Ozone treatment last fall, with most gratifying success. He has gained sixteen pounds in weight and regards himself as well.

V. E. A. C., a sufferer with dyspepsia and great nervous prostration, was treated by me in March and April with decided benefit.

VI. Mrs. P. had suffered fifteen years from dyspepsia and depression of spirits. For two months her diet had been only gruel, when I was consulted. I treated her with Ozone water and she has recovered her appetite and cheerfulness and with fair prospect of a thorough cure.

VII. Mrs. M. had been for many years a sufferer from ovarian cysts. On the 30th of March, 1883, she was attacked with convulsions, which resulted in the rupturing of one of these abscesses and the discharge of its contents into the tissue. Septicæmia, or blood-poisoning, was the result. Bright's disease now appeared. The right limb swelled to immense size; high fever ensued, with chills. Her hope for life appeared very frail indeed. About the 15th of April her physician began to administer Ozone water. A week later the discharge of albumen was reduced one-half, and in two weeks it entirely ceased. Three months later she was in excellent health.

VIII. Mr. J. S. D. had marked symptoms of Bright's disease of the kidneys. In two weeks after beginning the use of Ozone water the discharge of albumen had almost entirely disappeared, and a month later he was discharged cured.

IX. Mr. J. H. D. had diabetes mellitus and recovered in six weeks from Ozone treatment.

X. Mr. S. recovered of diabetes insipidus from the same remedy.

XI. Mrs. A. B. was a sufferer from nervous prostration; also a subject to floodings, and the stated recurrence of diphtheritic affection. She had been afflicted in this way for nine years. She was treated with Ozone water, and though still under treatment, exhibits improvement apparently permanent.

XII. Mr. S. B. N. had the misfortune to contract small-pox, from which his recovery was very imperfect. He was anæmic, wasted by marasmus, and greatly debilitated. He has been treated by Ozone water with marked advantage.

MALARIA, QUININE POISONING, ETC.

XIII. Col. —— —— became my patient in April, 1883. He had contracted intermittent fever in the army, in the sum-

mer of 1863, in the Yazoo district of Mississippi where he was then on duty. The service was arduous, the severity of the heat compelling night-work with its malarial exposure. The attack was very violent and the chills very severe. He was treated with quinia in large quantities without benefit. In August he came home on sick leave, and was absent ninety days. His medical adviser now administered arsenic, with antidotes to counteract the previous drugging. On his way back to duty he was compelled to remain on the road and receive professional care. Congestive chills were added to the other attack. More quinia and arsenic were given, and he became as regular in their use as at his meals. After the close of the war he returned North in a deplorable condition. He engaged in business, but continued to suffer. His weight, formerly one hundred and forty pounds, fell to one hundred and twenty-seven; the circulation was sluggish; the feet and hands cold and moist; and sensation at the extremities was entirely suspended. The senses of hearing and sight were similarly impaired. The peculiar tintinnabulation and other symptoms of quininism were present and very conspicuous. He could neither read nor write, and lost the power to estimate distances. It was actually dangerous for him to go into the street. A greenish film came over his eye, the beginning of a cataract. Indications of ataxia appeared, and a creeping paralysis invaded the physical functions. An apopletic or epileptic seizure also took place.

In this critical condition he consulted a distinguished specialist in nervous diseases, and placed himself under his care. He was now treated with strychnia, Belladonna and electricity. The physician gave him little encouragement. To the question how long might he expect to live, the answer was: about four months if he took the best care of himself, but it would be no matter of surprise if he only held on three months. The wreck appeared to be almost complete. Under these prospects the last winter was spent. There was faint hope for any ordinary attempt.

In April he came under my attention. Other medicines were given up and only Ozone water prescribed in the concen-

trated form. He had a second fit not long afterward, which alarmed every one very much. It was not hopeful, but I had no confidence of benefit from anything else. I could but persevere, be patient and wait. Presently a change for the better appeared. He did not, however, persist in the Ozone-treatment without interruption till June; so that I did not have a fair chance. His engagements and discouraged feelings were in the way. But so much improvement was now evident, as to induce greater regularity. The appetite increased; the torpidity of function was mitigated; the numbness in the hands and feet disappeared entirely. There was also copious perspiration. By July he was able to walk without becoming tired—a thing not before possible for many years. He gained thirty pounds, attaining a greater weight than before his sickness; became able to go up and down stairs with ease, and to walk in the street with a rapid gait. He does not as yet attempt to read or write, but he is cheerful and very hopeful of good results. He had been considered as having but one chance in four to escape total blindness, and he has not lost that one.

All things considered, this may fairly be regarded as an advantage gained by Ozone treatment.

The origin of disease is to be traced to impairment of the organic nervous system, which controls and is in turn itself sustained from the circulation of the blood. Any case which impairs the circulation or covers the tone of that department of the physicial organism will be followed by functional disturbance; and eventually, if this is not corrected, organic lesion is certain to result. The great category of diseases is thus accounted for. The most prolific source is arrest of vital functions, and zymosis is perhaps the most influential factor in the case. Whether the poison is introduced from without, or is engendered within the body is of relative importance only. The urgent matter is to arrest it and render it innocuous. The various antiseptic, detergent, cathartic and other remedies have this object in view; and their value depends entirely upon their efficiency to accomplish it.

The enthusiasm with which every "new remedy" is greeted,

and the almost equal suddenness with which most "new preparations" are discarded show conclusively that the medicines in use do not adequately meet the wants of physicians. We cannot return to the atrocious mercurial and other agents of another age and method. The immense fortunes made by certain venders of proprietary medicines, protected by copyrighted label, and the great competition in that department of business, demonstrate with equal force that the people at large are conscious that medical skill and the agents employed fall more or less short of what the public have the right to expect. Impurity of the blood and impairment of nervous energy constitute the basis of the prevalent diseases, and the ordinary means have not, in their opinion, succeeded in remedying them.

Ozone, being a condensed and active form of oxygen, the great life-agent of nature, appears to be the needed auxiliary. It enables the proper medicines to do their part more effectually, and so aids the skilful physician in his zealous efforts. It neutralises the various morbid and disintegrated elements in the body, stimulates the nervous system and the emunctories to remove them, thus itself operating as a medicament of rarest virtues. It also adds vigor to the body itself. Where oxygen exists in due proportions there is health; and Ozone being a concentrated oxygen is most potent in securing that condition.

The various disease-germs, bacilli, bacteria, microzymes, or whatever they may be, die in pure air, or fluids abundantly supplied with oxygen. They thrive and multiply only in decay, in morbid conditions, or where the integrity of the structure is somehow impaired. Ozone, by changing such conditions and restoring the vital energy at the same time, proves its own superiority to chlorine and other compounds, as the destroyer of sepsis, and the great corrigent of zymosis.

In innumerable cases where opium, morphia, quinia, iodine, bromides, etc., have been ineffectual to control or mitigate a complaint, Ozone water under the concentrated form has accomplished the desired result and rendered those drugs un-

necessary; delivering the patient from the risk of those fearful reactions known as quininism, morphism, chloralism, bromidism, mercurialisation, etc.

Again in what physicians term "the expectant treatment" the simple Ozone water is perticularly efficacious. In any perceptible impairment or weakening of the nervous and muscular systems, its persistent use can be relied upon to restore health. Women anticipating the change of life will find it a proper remedy in their case. It exercises a restorative influence in convalescence after long and exhausting sickness, eradicating whatever susceptibility may exist for any relapse.

These results are all to be attributed, we cannot repeat too often, to the antizymotic quality of Ozone. It purifies the blood, arrests and prevents decomposition in the fluids and tissues of the body, assures the purity of the blood-forming material and invigorates the nervous and muscular structures. The various and complicated functions of the system are thus performed with uninterrupted regularity and the individual sustained in health. It is a corrective, aperient, alterative and purifier of the circulation. Its beneficial effects are speedily derived in all forms of intestinal disease, malarial or choleraic; also in rheumatism, and in short all disorders owing their existence to a depressed condition of the nervous system or a morbid state of the blood. It is equally efficacious as a lotion for open wounds, ulcers, eruptions of the skin, diseases of the eye and ear, blood-poisoning, and inflammations generally; in fact, all ailments characterised by morbid glandular secretions, or discharges from membranes or tissues. In cutaneous eruptions, whether contagious or non-contagious, its judicious and persistent use, under the direction of the physician and according to directions, can hardly fail to ameliorate and eventually to eradicate the disorder, however it may be seated.

Distinguished physicians have given the same testimony. Professor Mohl, of Heidelberg, in a recent lecture, declared the Ozone Therapeutics to be the greatest and most important characteristic in future medication. Professor Kuhne and Dr. Scholz also declare their conviction, derived from experience, that Ozone must and will be a permanent factor in the medical practice of the future.

THE GANGLIONIC NERVOUS SYSTEM:

ITS RELATIONS TO THE VITAL FUNCTIONS AND MORAL NATURE.

By ALEXANDER WILDER.

Whether we propose the study of the corporeal structure as philosophers, or simply as physiologists, we shall find the proper understanding of the nervous organism, its functions and relations to be essential for our purpose. We cannot afford to rest content with an imperfect or superficial apprehension, but must push our research to the very core of the matter. It is very incumbent upon us to learn all that is already known, and to endeavor earnestly to find out whatever else we may be able. The significance of this knowledge consists in the intermediate relation which this organism sustains between the psychic nature and the bodily frame-work. The union which exists through this medium constitutes the physical life. The moral and mental qualities are thereby brought out and carried into outward manifestation and activity. Man is thus the synthesis of the universe, including in himself the subjective principles of existence, together with the objective factor which they permeate.

It is a common practice of teachers and writers, accordingly, to treat of him as twofold, a body and soul. Knowledge is classified, accordingly, as physical or scientific, and metaphysical or beyond the province of phenomenal observation. All philosophy, moral and mental science, and whatever relates to causes and principles, are thus comprehended under the department of metaphysics, as being beyond the limits of sensuous knowing. They are the higher and more important, as pertaining to the actually real, and as furnishing the ground-work for the right understanding of things. The sentiment of optimism, that all the creation and events partake of good and are from it, is from the metaphysical source, evolved out from the interior depths of the mind. On the other hand, the views of life and action which are frequently denominated practical, have their ulterior origin in a gloomy notion that all things are controlled from the worst.

In order to redeem scientific knowledge from this morbific tendency, it is necessary to employ other modes of thinking. The method of phenomenal induction which is often praised as leading to exactness, is a faulty process of reasoning. Nobody ever discovered anything essential by it. There is a faculty of the mind which transcends these limitations, and even anticipates discoveries. "The spirit of man," says Bacon, "is as the lamp of God, wherewith he searcheth the inwardness of all secrets."

The influence of the mind, or to speak more precisely, the emotional conditions, upon the body, in causing and curing disease, is recognised by intelligent persons everywhere. That grief, fear and remorse exhaust the vital energy, and that hope and faith renew it, are well-known facts. "The great art of life," remarks a distinguished author, "is to manage well the restless mind." The unconscious and invisible physiological movements and processes are effects of which the soul is the producing cause. What is usually called nature and law in this matter, is but a name for these indications.

The distinction between moral and mental endowments is universally admitted. We are to conceive of the soul as the essential selfhood, but nevertheless as not exactly identical with mind or spirit. Sometimes it is not easy to make this distinction, but generally the spirit is considered as as an entity transcending the soul in its nature and province. The Supreme Being is essentially spirit rather than soul. That entity in man which assimilates to the Divinity is denominated spirit by the Hebrew writers, and mind (*noos*) by the Greeks. The relation of the mind to spirit, soul and intellect are pretty well illustrated in these two passages: "There is a spirit in man and the inspiration (*NaSaMA*) of the Almighty giveth them understanding." "And the Lord God formeth man—dust of the ground—and He breatheth into his nostrils the breath (*NaSaMA*) of lives and man becomes a living soul" (*NaPhaS*). The understanding is the logical or reasoning faculty, and not the pure or intuitive reason. It nevertheless is an outcome or descent from the higher principle. The soul as contrasted with the body is

spirit or spiritual; but of itself it is the individuality as distinct from the higher, diviner principle. "In other words," says Professor George Bush, "the soul is that principle in man that constitutes his *true personality;* and this is but another form of saying that *the soul is the man himself, as a living, thinking, feeling, active being.* Sir William Hamilton also says: "I define *psychology*, the science conversant about the phenomena of the mind, or conscious subject, or self, or *ego.*" Heyne is perhaps a little more explicit. He explains the word *psychic* or *psychical* as describing the human soul in its relations to sense, appetite, and the outer visible world; and *psychological* as pertaining to the spiritual or rational faculties which have to do with the supersensible world. He is tolerably correct.

I must protest totally and unqualifiedly against the use of the term *psychology* to denote displays of weird and curious phenomena. The other definition, to signify the condition and peculiar manifestation of insanity, is equally objectionable.

It is not always easy to keep rigidly close to distinctions of meaning. While, for example, *mind* properly signifies the spiritual nature, we are obliged by everyday usage to understand by it also the understanding or rational faculty. Such disorders as insanity in its various types, and many which betray nervous derangement, are usually classed as forms of mental aberration, although the moral element is in a degree overlooked.

The psychical nature is two-fold; one division is intellectual and perceives; the other is moral and feels. The latter is closest to the physical life, the former to the spiritual. The two are constantly in operation side by side, so to speak; and at times are not in harmony with each other. We feel and desire in one direction, when sometimes we are convinced the other way. Pleasure and pain belong to the emotional nature; happiness and unhappiness to the other.

PSYCHIC PHYSIOLOGY.

It is almost unnecessary to state that so far as relates to the physical nature, the whole mental and psychic portion of

our being is assigned to the nervous system. I repudiate, however, the proposition that emotion, thought and intellection are merely products of that part of our structure. The soul has not grown out of the physical nature like a mushroom out of a dunghill. It made the external nature and is not made by it. The faculty of intellection, expressed by thought, speech and act, is the soul's patent of nobility from the eternal world. Having this patent, the spirit of man goeth or aspireth upward, while that of the beast goeth downward to the earth. Because such is the intuitional nature of man he has a brain and outlying nervous structure superadded to the vital and organic system, made by the fashioning energy of the mind, which no animal has. The form of the body follows and is shaped by the direction of the soul. Hence as bramble-bushes do not produce grapes, nor are produced from seeds of grapes, so the human soul is never formed in association with a body or nature other than human.

The nervous system, like the psychical nature, is two-fold. There is the cerebro-spinal axis, consisting of the brain, the commissures and other fibres, the sensorium, spinal cord and nerves; and the sympathetic or ganglionic system, consisting of the various ganglia of the viscera and spinal region, with the prolongations and cords which unite them to each other and to other parts and organs. The origin of the sympathetic system, as fetal dissections abundantly prove, is the great semilunar ganglion in the region of the diaphragm. It is the part first formed as the common centre, from which the rest of the organism proceeds, differentiating into the various tissues and structures. That it is the central point of the emotional nature is apparent to anybody's consciousness. The instinct of the child and the observation of the intelligent adult abundantly confirm this.

A ganglion is a collection of nervous cells and molecules, which are regarded as elaborating and giving off nervous force. The sympathetic system is denominated the *ganglionic*, because it consists distinctively, to a prominent degree, of ganglia and nerve-structure of that character. The chief ganglion is denominated semilunar from its peculiar shape. That

region of the body is sometimes called *solar*, as having anciently been regarded as being under the special control and influence of the sun. Later writers on physiology have denominated it "the sun of the abdominal sympathetic system." The structure of the sympathetic ganglia is essentially different from that of the ganglia of the cerebro-spinal system; which illustrates the fact of a decided difference of functions.

A peculiar characteristic of the sympathetic system is its general distribution. In its form, it consists of innumerable ganglia arranged in groups, by an interminable number of plexuses, or net-works of nerve-fibres and prolongations of ganglionic substance. We have the solar plexus or sun-tissue in the region of the stomach and diaphragm, which appears to be the vital centre of the entire frame. Injuries at every extremity report here, and every emotion and passion has its influence for ill or good directly at this spot.

At a very early period in fetal existence, the rudiments of the medulla oblongata are found to exist. The close relationship of this part of the cerebro-spinal structure to the ganglionic is evinced by the evidences of inter-communication, and more particularly from the fact that it is the seat of power for all the cranial organs. It seems to be the germ from which the entire cerebro-spinal system is developed, and is, in fact, the equator of the cerebro-spinal axis. From the bulb at the superior extremity are produced the corpora striata, the optic thalami, corpora quadrigemina and other ganglionic bodies of the sensorium, the cerebellum, and finally the cerebrum.

It is certain that offshoots from the sympathetic system pass upward to the cerebral system. Closer examination will show that they are in company with the blood-vessels, which supply the various structures of the brain, indicating that the cerebral organism exists, and is nourished from the sympathetic system as the infant from its mother. Each of the cerebral ganglia is arranged on an artery and its arterioles like grapes on a stem. In an analogous manner there is a double chain of these sympathetic ganglia, over fifty in number, ex-

tending from the base of the brain along the sides of the spinal column to the coccyx, which give off fibres to the various spinal nerves which proceed from the vertebral cavity to the various parts of the body. They are named from their several localities, the cervical, dorsal, lumbar and sacral ganglia.

There are also the carotid, the superficial and deep cardiac plexuses, the suprarenal, hepatic, splenic, superior and inferior mesenteric, pudic, etc. These plexuses are made up of nerve-cords from different sympathetic ganglia, and filaments from certain of the spinal nerves. The nerve-cords proceed from these plexuses to their ultimate distribution; showing that the plexuses serve to combine the various elements in order to form an extremely complex nerve. As regards the ultimate distribution of the Great Sympathetic, it sends its branches to all the spinal and cranial nerves, and they undoubtedly communicate the vital stimulus to these nerves and accompany them to their extremities. The coats of all the arteries are supplied in like manner, and all the innumerable glandular structures. The viscera, thoracic, abdominal and pelvic, all more or less abound with sympathetic nerves.

One ingenious writer computes that the heart stands at the head of the list; as it receives six cardiac nerves from the upper, middle and inferior cervical ganglia, and has four plexuses, two cardiac and two coronary, devoted to its supply; also numerous ganglia, embedded in its substance, over and above. These are centres of nervous force for its own use.

The suprarenal capsules come next, and after that the sexual system. Internal organs are more copiously supplied than external ones; hence the female body has a much larger quantity in this department. In consideration of this richer endowment, women and all females have a superior vitality and even longevity. The organs of special sense, the eye, internal ear, the nasal membranes and the palate seem to come next. After these are the stomach, the intestinal tract and the liver; and last of all, the lungs.

The minute ramifications of the ganglionic nervous system constitute its chief bulk. The tissue is found with every gland and blood-vessel, and indeed is distributed so universal-

ly and abundantly as to extend to every part of the organism. It would be impossible to insert a pin's point without wounding or destroying many of the little fibres. The ganglia are almost as universally distributed as the nerve-cords, so that the assertion of Dr. Davey is amply warranted that the ganglionic nervous tissue constitutes a great part of the volume and weight of the whole body.

The entire structure of the sympathetic system differs essentially from that of the cerebro-spinal, indicating that there is a corresponding difference in function. The arrangement, the great number and extraordinary diffusion of its ganglia, the immense number and great complexity of its plexuses, are so many additional proofs, if these are needed.

It is not necessary here to give more than a cursory sketch of the cerebro-spinal axis. If we treat it by its process of evolution we must begin at the medulla as the first rudimentary structure. In point of time the sympathetic system is developed first, being in full operation in the unborn offspring, while the other can hardly be said to begin a function till after birth. At the superior extremity, two fibrous branches extending toward the rear of the head form two of the lobes of the cerebellum at their extremity. A second pair of fibres develop into the optic ganglia, whence in their turn proceed two nervous filaments with the rudimentary eyes at their extremities. The auditory and olfactory nerves issue from the ganglia at the medulla, each with the rudimentary structure of the future organ attached to it. Another and later formation is the frontal lobe of the brain. In due time, but not till some time after birth the whole encephalon, brain, commissures, sensory ganglia, cerebellum, become complete.

The spinal cord below and the nerves are also formed about simultaneously with the other parts of the structure.

It may not be amiss to suggest that the primordial cell or ovule is itself a nervous mass, and that the spermatic fluid appears to unite with, if not to consist entirely of, material chemically similar with that composing nerve-substance. This would seem to indicate that the germ of the body is nerve-matter, and that all the other parts, tissues, membranes

and histological structure generally were outgrowths or evolutions from the nervous system, if not that system continued further. There is nothing known in physiology that conflicts especially with this hypothesis. If it is actually the case, the understanding of the nervous system and its functions can be greatly facilitated.

The cerebral and spinal systems of nerves together perform the several functions of feeling, thinking and willing, as these are commonly understood. These are the actions of the central ganglion or registering arc, which receives impressions of the brain which perceives them, reflects upon them and wills; of the voluntary muscles which execute the will in regard to motion, and of the corpora striata and motor nerves, which are the agents of transmission. The brain is their influential organ.

The ganglionic system of nerves, with the solar or semilunar ganglion for its central organ, performs the vital or organic functions. Secretion, nutrition, respiration, absorption and calorification, being under its immediate influence and control throughout the whole body, it must preside equally over the brain as over the stomach, and equally over the spinal cord as over the liver or womb. In point of fact, if either of these organs or viscera was removed from the influence of the ganglionic nerves entering so largely into its very composition, its specific vitality would cease; its contribution to the sum total of life would be withheld.

The formative force is directed, as we see, toward the development of the central organ or organs predestined to give life and form to all the others; which it creates, assigning their peculiar force and direction, thus determining the essential parts of the future animal and its rank and position in the scale of infinite being. Lawrence expresses the matter in these terms: "The first effort of the vital properties, whatever they may be, are directed toward the development of a central organ, the solar ganglion, predestined to hold a precisely similar relation to the dull and unmoving organism, as the vital fire to the animated statue of Prometheus." Ackerman prosecuted the enquiry further, and insisted that the ganglionic

nervous system is the first formed before birth, and is therefore to be considered as the germ of everything that is to be afterward developed.

"As to the sympathetic nerve," says Mr. Quain, "so far from being in any way derived from the brain or spinal cord, it is produced independently of either, and *exists*, notwithstanding the absence of both. It is found perfectly formed in acephalous infants, and therefore does not rise mediately or immediately from the brain; neither can it be said to receive roots from the spinal cord, for it is known to exist as early in the fœtal state as the cord itself and to be fully developed, even though the latter is altogether wanting." Blumenbach adds his testimony: "The nervous system of the chest and abdomen are fully formed while the brain appears still a pulpy mass." It is the foundation laid before the superstructure is built.

Instinct is plainly a function of the ganglionic system. The infant manifests it in common with the lower animals; and it is alike in both, not amenable to the reasoning faculty. It is not to be cultivated.

PATHOLOGICAL OBSERVATIONS.

Microscropic observation has not been carried to a degree of perfection which will warrant us in leaning upon it in morbid conditions of the brain or nervous system. Few of the explorations of brains, whether of sane or insane persons, are worth a straw in that respect. He would be a credulous dupe who attached importance to the recent examination of the brain of the murderer Guiteau, and not very wise if he heeded the expert testimony. Dr. Copland declares that "changes may take place in the nervous system sufficient to cause the most acute disease, or even to subvert life, without being so gross as to be demonstrable to the senses." Dr. J. C. Davey also asserts that during his official connection with the Hanwell Asylum in England, eight per cent. of the cases examined *post mortem* exhibited no indication of disease to account for death. A culprit named Blakesly had been executed for murder, and a question was raised in regard to his insanity.

It was formally reported to the public through the daily press that this idea was untenable, as his brain had been examined with great care, and no sign or appearance of altered structure or disease had been discovered. The inconclusiveness of such a position, Dr. Davey declares, is certain.

It is bad pathology to define insanity as primarily and essentially a disease of the brain. It would be more proper to consider it as functional. The blood and nervous substance, Dr. Kreysig truly declares, are the primitive and essential instruments of all the organic functions; and hence "the elements of general and internal disease, or the morbid predispositions which form the most important objects of treatment, may all be reduced to vitiated states of the blood and of the lymph; or to derangement of the nervous system." It is safe to supplement this quotation by the remark, that neither the blood nor the lymph would be likely to become vitiated except the organic nervous system had been primarily affected.

In fevers we find impairment of all the vital functions; the stomach refusing food or rejecting it, the liver failing to secrete healthy bile, the excretions no longer indicative of health. The heart's action is oppressed, as is also the respiration; and the skin betrays disturbance. The various symptoms are like those attending a blow on the stomach. Cholera, in so many respects differing from fever, exhibits a similar evidence of impairment. The patients, when the shock is great, fall dead as though struck by lightning, or at the epigastric region.

Disease of the heart is now set forth as a very frequent cause of death, It was asserted that some disordered valvular action caused the sudden death of the late Mayor Havemeyer. I think that this was at the least but assigning the effect for a cause. The mayor had taken a walk of several miles on a wintry morning, which exhausted the vital force at the physiological centre, the solar nerve-tissue, and from that exhaustion he died. Persons running till out of breath or fatiguing themselves inordinately, die suddenly from the like cause. Surgical operations are fatal from the shock on this part of the system. Women in childbed, otherwise doing well, will collapse and die. Sun-strokes are mortal from the same cause.

The poisons, fear, grief, anger, even sudden joy, will attack the citadel of life, paralyse the sympathetic system, suspend the various functions or modify them, and even produce death when sufficiently intense. We may go through the whole series of causes of disease and find the same solution.

The entire range of disorders called nervous will be proved, I have no doubt whatever, to start from the disturbance of the ganglionic centres. It is but rarely, says an old physician, who had been for several years in change of an Insane Asylum, that persons afflicted with nervous diseases do not exhibit signs, more or less evident, of something amiss with the liver or stomach, or parts accessory or subordinate thereto. This is true of epilepsy, hydrophobia, tetanus, delirum tremens, hysteria, chorea, and paralysis in several of its forms. It is customary, and I might say the stereotyped practice, to refer the external symptoms of these disordered conditions to the cerebro-spinal organism ; but I insist that the integrity of that organism depends upon the normal condition of the ganglionic system, and therefore, that the diseases of that structure must be accounted for accordingly.

Insane patients, and persons suffering from various other nervous disorders, invariably exhibit disturbances in the functions of nutrition, secretion and absorption. Nor can they be relieved or materially benefitted till these are corrected. I think it fair to presume, therefore, that the morbid action began with these functions and extended afterward to the others. I have little confidence in the utility of the treatment of patients at insane asylums except it is conducted on this principle. Insanity is a disease of debility.

"GANGLIASTHENIA."

Several years since, Dr. E. H. Wood, of Michigan, published a monograph upon *Gangliasthenia*, a loss of ganglionic nerve-power, in which these ideas are set forth with great force and distinctness. *It is the condition*, he declares, *to which all disturbances of the organic functions are due.* "Regarding the ganglionic tract as an entirety and as distinct in its sphere from the cerebro-spinal division of the nervous system, we

find that by its innervation the organic functions are performed. That is, circulation, sanguification, nutrition and sleep are effected by the ganglionic nerve-force. Other processes enter into and are conjoined with these; but those enumerated can be accounted the grand outcome of organic life. Being effected by ganglionic innervation, if they are deranged, it must follow that ganglionic innervation has been disturbed. These functions are links in a chain. If the first, upon which all depend, becomes weakened, the rest fail of healthy performance. If innervation is diminished the blood does not move in its accustomed channels with its normal celerity; *i. e.*, passive congestion ensues. The blood-making processes are retarded thereby. Hence, innutrition and lack of animal heat, and hence also frightful dreams, phantasmagoria and the horrors of insomnia."

Following out this logic, passive congestion of all kinds is due to gangliasthenia. It is the pathological condition in cholera, typhus, and yellow fever. The common theory ascribes it to malaria, or specific poison in the blood. This is not the case. The source of the poison is from within and not from without. Malaria is a fiction and delusion. The nervous energy imparted from the ganglia of the sympathetic system permeates the blood and influences every corpuscle so that it moves as if endowed with life and will. If this energy is diminished or if it ceases entirely, the blood is no longer pervaded by it, and is thus devitalised and poisoned. It is further poisoned when the physiological processes for its sustentation and renewal are perverted, and so introduce into it their morbid products. The blood thus poisoned by the cessation of ganglionic nerve-force remains fluid after death, thus bearing testimony that the *vis vitæ* of the ganglia had ceased prior to death.

In some forms of passive congestion, the blood-corpuscles lodge at the intersection of the minute vessels. Some of them become swollen by endosmose of serum and burst, and their fragmentary remains are carried again into the current of the blood. In another form, the corpuscles pass into and through the walls of the capillaries, remaining sometimes half within

and half without the wall of the vessel, and thus distorted in shape owing to the small diameter of the minute passage.

Dr. Wood accordingly declares this as an axiom and principle of medicine: *That whenever idiopathic passive congestion is present, it is due to gangliasthenia, and the intensity of the congestion will be the measure of the degree of ganglionic exhaustion.*

The kinds of passive congestion correspond with the manner in which the ganglion or any portion of them are affected by depression. It is supposed that every ganglion possesses all the elements of a nervous centre or focal point, and that each in its own sphere is capable of receiving, transmitting and reflecting impressions on which the healthy performance of function depends.

In one kind of passive congestion, the face is suffused and of a dusky red. It may be said to exhibit the phenomena of a permanent blush, in which the arterioles are congested and the arterio-motors are depressed. In the other kind of passive congestion, the countenance presents a permanent pallor, often mistakenly called anæmia, which is due to congestion of the venules, or is the result of veno-motor depression. The distinction marks the division of congestive diseases into two classes, one characterised by deficient warmth and the other by excess, hypothermy and hyperthermy. In the former class the congestion is in the venules and venous capillaries; in the other, the arterioles and arterial capillaries are affected. The designations of veno-motor and arterio-motor gangliasthenia may be used with great expressiveness for these conditions. The hypothermic form, due to veno-motor gangliasthenia in its greatest intensity, is denoted by a fall of 8° F., below the normal standard; and the hyperthermic form in its severest expression, by a rise of 10° above.

In the veno-motor form the nervous apparatus of the veins is paralysed; the blood is impelled and permeated by the nervous energy till it emerges from the capillaries, when it is cut off from that influence, and the veins accordingly become engorged. In the other form, the arterio-motors are paralysed, and the impulse of the heart is the sole force, or nearly such, to impel the blood through the arteries.

Health is the perfect equilibrium of the forces of the body. Any deviation, even the slightest, that may be due to depression of the ganglia by which this equilibrium is disturbed, is evidence that the normal performance of function is disordered. "These evidences rightly interpreted are the symptoms of deranged function; but when appearing in uniform aggregation, a set of these are recognised as constituting a particular disease, they become symptoms of that disease. The symptoms rightly interpreted are the signs of the underlying condition to which the derangement of function is due. Our knowledge of the nature of disease will depend, then, upon the right interpretation of signs, or the power of our imagination. The trouble in our semeiology has arisen heretofore, not from lack of discernment or deficiency of observation, but from error of explanation or poverty of imagination."

"The signs of gangliasthenia and the symptoms of passive congestion are interchangeable, for they are the same. The signs of this condition are subjective and objective, local and reflected, or direct and indirect. They are uniform in their manifestation, and their signification never changes. Disease is said to be Protean in its shape; but the signs of this condition are unvarying in character, and their meaning is invariably the same.

"Gangliasthenia is mild or severe, and the signs correspond with its mildness or severity. The mild condition is most frequently the prodromic stage of some disease; *i. e.*, it becomes intensified and develops into the severe form under the continued operation of the causes which have produced it; the limits between the two being a mere line of demarkation which cannot be defined, so intimately are they blended together; or, the mild condition may remain *in statu quo* and become chronic; or, the mildly-gangliasthenic individual may seek a physician, and a simple remedy prescribed may sometimes effect a cure. The diseases due to this condition are not sudden in their onset. Careful examination will always disclose the fact that previously there have been feelings of lassitude and disinclination to exertion—physical or mental, depressed spirits and headache, disagreeable dreams and drowsiness in the day-time."

SYMPTOMATOLOGY OF GANGLIASTHENIA.

Frontal headache is reflected from the congested stomach.

Suffusion of eyes, lacrymation, is due to congestion of the lacrymal gland.

Asthenopia, blurred or distorted vision, is occasioned by congestion of the retina.

Soreness of the lids is due to congestion of the palpebral conjunctival membrane.

Ptosis, or convulsive closure of the eyelids, is purely a sign of gangliasthenia. Ganglionic fibres unite with the nerves which supply the *levatores palpebrarum.* When tears are shed as the expression of emotion, the lids are partly closed by the action of the sympathetic portion of the nerves which supply this muscle. When "crocodile tears" are poured out, the lids never quiver or drop, because the sympathies are not touched. This sign finds its intensest expression in cholera.

The sense of a swelling or bulging in the eyes, exophthalmos, is also gangliasthenic, and is due to contraction of the orbito-ocular muscle behind the globe, which causes the protruding.

Injected and congested conjunctivæ exhibit the condition of the arterioles throughout the body.

Icteroid conjunctivæ show how easy tissue is pervaded by pigmentary matters of the bile. Icterus is occasioned by gangliasthenia.

Excessive sweating in congestive disease is due to the ganglionic condition.

Sleeplessness and disagreeable dreams are evidence of debility. The phantasmagoria of the waking hours, as processions of men, women and animals, looking and mocking the patient, pass before him in endless array.

Anorexia, nausea, vomiting and retching, are due to different degrees of congestion of the stomach.

Coldness of the extremities indicates gangliasthenia.

Stiffness, numbness and swelling of the hands are due to their congestion.

Sweating hands are often an idiopathic affection. The "washerwoman's hand" is an objective symptom of cholera,

typhus, and yellow fever, which diseases are nosologically related. The palm of the gangliasthenic individual exudes a greasy sweat.

Discoloration under the nails is an eloquent tell-tale. In arterio-motor gangliasthenia the color is purple ; in the veno-motor, it is blue.

Pain in the nape of the neck running up or radiating into the occiput, is reflected from the congested lungs.

Pain between the scapulæ is reflected from the congested stomach.

Pain at the upper lumbar vertebræ is reflected from congested kidneys.

Pain at the sacro-spinal junction is reflected from congested rectum.

Pain in the shoulders is reflected from congested liver.

Pain in the elbows and knees is reflected from congested colon.

Pain in the bones is due to congestion of their medulla.

Weariness or muscular debility, pain and cramps in the legs, are reflected from the congested small intestine.

Œdema of the feet and ankles denotes the general gangliasthenic condition.

Hæmorrhages due to congestion occur as the secondary consequences of arterio-motor gangliasthenia. When they occur idiopathically they are diseases ; as hæmoptysis, hæmatemesis, menorrhagia and the like. But when occurring as an intercurrent affection, the phenomenon is regarded as a symptom of congestive disease, as the black vomit of yellow fever, the intestinal hæmorrhage of typhus or scurvy, and of catamenial excess, or metzorrhagia. When intestinal hæmorrhage takes place in typhus, it is erroneously attributed to ulceration of the bowels.

In the veno-motor gangliasthenia of cholera, serum is copiously evacuated ; but when reaction takes place, the ganglionic condition changes to arterio-motor depression, and hæmorrhage ensues. This change shows that the two conditions are intervertible and closely allied.

Despondency, irritable temper, lassitude, languor, listless-

ness, hot flushes and cold chills are all expressive of mild gangliasthenia.

The atonic or feeble voice belongs to the same category.

Drowsiness in daytime is generally the sequence of sleeplessness in the night.

Tinnitus aurium, a humming in the ears, is due to congestion of the labyrinth.

The sense of constriction around the chest is from congestion of the diaphragm.

The sense of chilliness is generally present in incipient gangliasthenia, and denotes the beginning of passive congestion. The feeling is experienced in the warmest days and is excited by the gentlest zephyr. It is of most valuable import to the diagnosticator, and he should in all cases ascertain its existence by direct enquiry.

Diarrhœa is both a symptom and a disease; as a symptom it is a direct sign of gangliasthenia and is due to congestion of the small intestine.

The results of gangliasthenia are *immediate* and *remote*. The immediate consequence is passive congestion, and the remote effects are the results of passive congestion. These are principally changes in the character of the blood, and in the relation of the blood to the vessels. Alterations in the character of the blood take place slowly or rapidly, according to the kind and form of gangliasthenia. Permanent changes of the tissue or structure of the ganglia caused by disintegration, softening or other morbid process, may be considered as the resultant effects of gangliasthenia.

CAUSES OF GANGLIASTHENIA AND THE REMEDIES.

Every agent which tends to lower the spirits and moral power of the individual is likely to impair the nervous energy. Dr. Ward enumerates among the depressing causes the varying conditions of the atmosphere in general, that part of it which the individual breathes; the social relations which each sustains to others; the circumstances of life as regards food, clothing, labor and sleeping arrangements; in short, every thing that affects the corporeal existence from within or with-

out. The particular type which the disease assumes which is occasioned by gangliasthenia, is determined by the environments of the individual.

The treatment of gangliasthenia should always be directed to the mild form, thus preventing disease.

There is much to admire, very much to approve in these statements. All medical science that does not penetrate with its light to the root of our physical maladies and sufferings, but applies its remedies only to visible effects, and to the removal of temporary symptoms, is superficial and unphilosophical. The name, too, seems most appropriate. The peculiar symptoms enumerated, involving the impairment of nervous force, weakness and vacillation of will, lack of decision, depressing emotions, irregular action of the muscles, are not in an essential sense to be referred to cerebral trouble. They belong to the organic centre itself,—to the solar ganglion.* The great sympathetic nerve is endowed with a specific and independent energy, to which the brain and spinal cord are subordinate. The vital stimulus proceeds thence, and sustains every functional action of the body.

THE MORAL NATURE.

While the brain and spinal cord constitute the organism by which man sustains relations toward the external world, the ganglionic system is the origin of subjectivity. He feels with it, and from this instinctive feeling co-ordinating with the reflective faculties, he forms his purposes. "We will find," Dr. Kerner truly remarks, "that this external life is the dominion of the brain—the intellect which belongs to the world; while the inner life dwells in the region of the heart, within the sphere of sensitive life, in the sympathetic and ganglionic system. You will further feel that by virtue of this inner life, mankind is bound up in an internal connection with nature." Dr. Richardson is equally positive: "That organic nervous centres are the centres also of those mental acts which are

* I do not believe in the "Germ-Theory" of disease, which seems now to be the popular craze, but rather in the Disease-Theory of Germs. The notion about bacilli, fungi and malaria, are all of a piece, pessimistic and unphilosophical.—A. W.

not conditional, but are instinctive, impulsive, or, as they are most commonly called, emotional."

It must follow, then, that all emotions will make themselves manifest through this part of the physical structure. We observe this at every hand. Every new phase of life, every occurrence or experience that we encounter, immediately indicates its effects upon the central organs of the body and the glandular structures. Every function is influenced by emotional disturbance. We lose our appetite for food, we are depressed and languid, or cheerful and buoyant, at the gratification or disappointment of our hopes, or at some affectional excitement. A comparison with the several forms of disease will show analogy and resemblance between each malady and some type of moral disorder. These influences prolonged and carried to excess would bring about permanent disease; and hence that maxim of Pythagoras cannot be too carefully heeded: "Nothing in excess."

I will agitate no dogmas here about the possible existence of the soul and moral nature apart from the body. Enough that I heartily accept the faith of an eternal life, which was before our birth upon this earth, which will be after our existence here shall cease, and that of that life and of that eternity we are an essential part. It is my purpose here to consider our relations as living essences with the physical structure to which we are attached. That the psychic entity pertains to the ganglionic rather than to the cerebral system as its informing principle is apparent. We love and hate, hope and fear, trust and doubt with this principle, and what is more than all, perceive the Infinite and Beyond.

This knowledge is invaluable in regard to the Higher Medicine. It is not to be supposed that the methods now in vogue, composed as they are of temporary expedients, unphilosophical conjectures, and a medication which conflicts with the *vis medicatrix* in the body, can always predominate. There must be an endeavor to recruit as well as sustain the vital forces. The dreams of old sages and prophets were not altogether visionary. Virtue can pass from one to another and so heal the sick as well as cheer the despondent. What little is known of animal magnetism proves as much. This agency is

older than the history of man. It was the divine art of Cheiron, the science of the Asklepiads, the chirurgery of Hippokrates, and more than that—even more than modern incredulity and superstition will consent for us to say. I am glad that the Lost Art is revived; I wish that the Missing Science had accompanied it. The art of medicine rightly understood, the knowledge which elevates the intellect and preserves the body, renewing the animal vigor and arresting the progress of decay itself, should be the end which we strive after. Nor did Macbeth demand any unreasonable boon—

> "She is troubled with thick-coming fancies,
> That keep her from her rest.
> *Mach.*—Cure her of that!
> Canst thou not minister to a mind diseased;
> Pluck from the memory a rooted sorrow;
> Raze out the written troubles of the brain;
> And with some sweet oblivious antidote,
> Cleanse the stuff'd bosom of that perilous stuff
> Which weighs upon the heart?"

When we rise to the perception of things in their causes we can then understand effects. We have a better method of philosophising in the way of analogy than is furnished in the *Novum Organum*. In the exploration of the grand system of ganglionic nerves we have been enabled to observe that each organ of the body is connected with every other, and the whole corporeal structure with the mind. Medical knowledge, to be really scientific, must recognise the influence of mental states over the vital functions, as a fundamental truth. The *vis medicatrix naturæ*, or healing energy of nature, is only an outcome from that department of existence.

Nor can the knowledge of the interior, life-ministering nervous structure be wisely neglected. Overshadowed as it may be by brain-science, it remains unrepressed and immutable, and lives on as a guard and witness, to note all that takes place and hold to rigid account. It keeps the middle place between the within and without, standing at the last verge of mortal being. It is the first thing created in our bodies, the last which is palsied by death. It contains the form which abides and controls the shaping of every part of the corporeal organism; and at the same time it mirrors the whole universe.

SCIENTIFIC BASIS OF ECLECTICISM IN MEDICINE.

By C. A. F. LINDORME, Ph. D., M. D.

It is a big hold-out in a paper not exceeding twenty pages of print. And all the more so because the Scientific Basis of Eclecticism in Medicine, if anything, is what it is on the only condition that it be the scientific basis of medicine altogether. Why so? Because, if the definition of Eclecticism in Medicine holds good, that it is the art to find out the proper way of medical practice, independent of the different schools or any dogmatism or doctrinarily-biased theory and practice of medicine, Eclecticism, be it thought of ever so little by its adversaries, is *All Medicine*. Eclecticism may appropriate with sufficient propriety the *dictum* of the *Abbe Sieyes* of the first French Revolution, referring to the "*Tiers Etat*": "What is it? Nothing. What shall it be? All."

This is my standpoint at least.

Eclecticism claims to have freed itself "from the house of bondage," to have accomplished its "disenthrallment from exclusiveness and medical bigotry," and to have got "into the glorious position of scientific knowledge and investigation."* And by virtue of this independence it makes bold to assert that it will select the very best remedy in every particular case. If this is true, Eclecticism must be on the road to verity. For, if anything, the *best* must be the *right*.

Now then, again, if the Eclectic practice is the right because it is the best, and *vice versa*, there must be a principle to it, the veracity of which is beyond a doubt, and which, although seemingly fundamental to Eclectic practice only, will turn out to be the scientific basis of medicine altogether.

Is the Eclectic maxim, "*Vires vitales sustinete*," such a principle? I doubt it.

It is a watchword, and was invented as a reformatory outcry aimed at a particularly gross default of the practitioners of the Old School. But it is not a scientific basis, nor was it intended as such, being the out-working of learned scholarship.

* *Transactions*, Vol. X., p. 45.; Address of WM. S. LATTA, M. D., President.

It is a maxim, not a principle. It tells about what Eclecticism would wish to accomplish, but nothing with regard to the theory of its scientific methods.

Even as a maxim, however, one cannot vindicate for it a universal character that would render it fit, or give it a chance, to supersede the antiquated and altogether erroneous maxims of its adversaries: "*Contraria contrariis apponenda*" and "*Similia similibus curentur.*" *Vires vitales sustinete* is a physiological, not a pathological suggestion; no Eclectic practitioner will ever be guided by it when doubting whether he has to exhibit Digitalis or Veratrum viride, morphia or Hyosciamus. A strict interpretation of the maxim would lead rather to the exclusiveness of a hygienic treatment, forbidding, indeed, all medicine whatsoever. But as a theoretical principle it is far from coming up to the scientific task which Eclecticism has to fulfill.* And this will be the case so long as Eclecticism is considering itself a special school, and does not aim at the universalism which is the natural goal of all scientific endeavor.

Eclecticism will supersede Allopathy and Homœopathy only on the condition that it reposes its ambition in the establishing of medical universality which does not admit any more of any particular party platform of medical science whatsoever; such a particular party-basis of medical science being a *contradictio in adjecto* indeed.

Even if the maxim "*Vires vitales Sustinete*" should in its substance be correct, its form would be scientifically inadmissible, so to say theoretically incorrect, because of too narrow a scope to embrace all the scientific points of view which would link the medical theory to the principles of the fundamental sciences, the veracity of which must be the exodus of our confidence to attain anything like scientific exactness, or any knowledge worth while to be cared about in medicine.

By taking such grand views of its purport Eclecticism can realise the hopes which were so manfully held out at its birth. By constricting its mission to the narrow boundaries of sectarianism, it will share the fate to which Allopathy and Homœopathy are doomed by the rolling wheel of time and the

* Compare LATTA in *Transactions*, Vol. X., p. 52, 53.

work wrought to fulfill the destiny of mankind: universal and never-ceasing progress. The scientific basis of Eclecticism cannot be found except on such a high standpoint as will not admit of any party-spirit, but, being the acme of medical thought, commands submission of all honest minds whose opposition is something nobler than wilful obstinacy.

It would be difficult for Eclecticism to work that much in a given time, and it would be a proceeding next to ridiculous to undertake anything of the kind in a paper like this. But happily for our purpose the universal basis of scientific medicine need not be sought after any more. The investigation of the many noble scholars who gave a life-work for their fellow-creatures' enlightenment established it long ago; and we need only take the trouble of pointing it out to the profession. It is only the adaptation of the general principles of natural science to medicine. This has been neglected, and supplementary scientific work is necessary in regard to it.

There are as yet a number of open questions and undecided points in physical science. In all probability mankind will never reach a stage of progress in its pursuit of truth where science can pretend to have settled all questions. It would be a sign of retrogression. But there are two points with which physical science will stand and fall, namely: 1st. *That Matter is invariably connected with force;* and 2d. *That force is never without motion.* Not only all the modern physicists, but moreover, physiologists like DuBois-Reymond, recognise force as the invariable concomitant, if not as the essential attribute or primary quality of matter; asserting that to every constant primordial mass belongs a constant primordial quantity of force, and that all the transformations of matter are produced by a differentiation of this primordial force.* Now then, force is any cause which moves or tends to change its motion.† Hobbes, Leibnitz, and Huygens already more or less emphatically pronounced in favor of this principle, "and in the first comprehensive treatise in physics ever published, that

* T. B. STALLO: *Modern Physics*, p. 153. (New York, 1882.)

† WHERVELL, *Mechanics*, p. 1.

of Musschenbrook, it is put forth as an axiom that no change is induced in bodies whose cause is not motion;"* which definition does not differ much from that of Helmholtz: "The object of the natural sciences is to find the motions upon which all other changes are based and their corresponding motive forces,"† and "citations like these, from the writings of eminent physicists, might be multiplied almost indefinitely."‡

Nobody can tell exactly what is the nature of the atoms of the 65 elements to which chemistry has analytically reduced all matter: "I know well that the atoms are invisible and inappreciable to the senses, and I do not believe that the direct proof of their existence and mutual attraction can ever be furnished.§ But nevertheless, the character of *atomicity* is investigated, and it has been placed by conclusive experiment beyond all doubt that no chemical change is going on without motion. Motion and atomicity are to a certain extent convertible terms, in as much as atomicity is nothing else than the peculiar character which the different kinds of atoms bear in their moving action. "This fundamental propriety governs the form of the combination, and marks its degrees and limits. It appears in the law of multiple proportions, manifests itself in the fact of the saturation, explains the functions of those incomplete groups called radicals, and exhibits the profound meaning of the theory of types."‖

Practical Chemistry, I hold, furnishes ample illustration of the theory that all chemical changes are evolutions of dynamic power. The formula of a nitroglycerine molecule is

$$\begin{array}{cc} H & O \\ HCO & NO \\ HCO & N\overset{O}{\underset{O}{}} \\ HCO & NO \\ H & \end{array}$$

When it explodes what does take place? The oxygen-

* STALLE, l. c., p. 117.

† ID. ibid.

‡ ID. l. c., p. 19.

§ A. WURTZ, *The Atomic Theory*, p. 247.

‖ AD WURTZ: *Historie des Doctrines, Chymiques depuis Lavoisier*, p. 81, Dictionnaire de Chimie TI. (Paris, 1869.)

atoms at one end of the molecule rush for the atoms of carbon and hydrogen at the other end, and the molecule is broken up."* The combination then is this:

HOH	OCO	
HOH	OCO	NN
HOH	OCO	NN
Water.	Carbonic dioxide.	Nitrogen gas †.

Thus the chemical action was motion, and a pretty forcible motion too, of which any skeptic to his entire and fulsome satisfaction can easily convince himself by experiment. There was a "rush" of atoms, as the learned Professor emphatically expresses himself.

Whatever be the character of the chemical change *that* takes place, whether a violent or a mild one, it is a law of modern chemistry that no molecular change will take place without an atomic migration, and that every atomic migration is also a molecular change. Consequently all chemical processes which medicine by its doses, big or small, can aim at, is *movement*. This is very nicely illustrated in the groups of the Potassii-aluminic sulphate (alum), and Ammonia-Alum molecules:

```
                 O O
                  S
        O        O O        O
K  O    S   O   Al Al   O   S   O   K
        O                   O
```

Potassic Aluminii Sulphate (Alum)

```
                 O    S    O
H H     O        O O        O      H H
 N   O  S   O   Al Al   O  S   O    N
H H     O        O O        O      H H
                 O    S    O
```

Ammonia-Alum (dried).‡

In these two groups the centre $Al_2\ O_{16}\ S_4$ is the same, but the K_2 of Alum has been substituted by N_2 in Ammonia-Alum,

* JOSIAH P. COOKE, Jr., Professor in Harvard, *Chemistry*, p. 229. (New York, 1876.)

† The atom of hydrogen and one of nitrogen having been borrowed from the fragments of a neighboring molecule.

‡ Cf. COOKE, l. c., p. 250.

H8 having besides been added, and the whole metamorphosis of Alum into Ammonia-Alum consisted in the migration or interchange of K2 against N2H8.

Likewise, replacing in the nitro-glycerine formula the NO2 atoms by H3 we get

```
        H  H  H
H  O    C  C  C  O H
        H  O  H
           H
```

*Glycerine.**

For those, however, who would doubt whether these diagrams of molecular structure are hypotheses, or if not as to their form, yet as to their substance copies from nature, more striking evidences are in store. The discovery of the artificial alizarine which so successfully replaces the more expensive madder-alizarine, was made by a chemist, Graebe, whose arguing, when experimenting, was founded altogether on the molecular structure, according to the type-theory of chemistry, of those bodies that he drew into account. As a body which was derived from naphtalin, and, like many similar derivatives, was reduced back to it when heated with zinc-dust, closely resembled madder-alizarine, in its molecular structure the sagacious chemist was led also to heat madder-alizarine with zinc-dust, when to his surprise, he obtained anthracene.† Now the conclusion was obvious that the same process by which the above-mentioned body was derived from naphtalin, "when applied to anthracene, would yield alizarine. The result fully answered these expectations, and now alizarine is manufactured on a large scale from the anthracene obtained from coal-tar."‡

The atoms do not only attract in a peculiar way, but they want to be attracted *according to their liking*. The eminent French chemist, Ad. Wurtz, speaks of atoms being "animated" and "harmonising,"§ and there are facts which tell in this direction. Although 53,939 volumes alcohol and 49,836 vol-

* Cf. Cooke, l. c., p. 317.

† Cooke, ibid.

‡ Cooke, ibid., p. 325.

§ L. C., p. 247.

umes water sum up arithmetically 103,775 volumes, they enter by being combined, vessels which would not keep more than 100,000 volumes of either, both being kept separately. Thus by being mixed these substances reduce their bulk in the ratio of 9,775 volumes, a reduction which it would be out of the power of any human contrivance to bring about by any mechanical apparatus. It would require a pressure of 800 atmospheres or Ko 1,266,400, not counting the increase of resistance proportionate to increased compression; and consequently it cannot be brought about, except by a voluntary action, as it were, of the alcohol and the water themselves, whose ardent desire to combine by atomic motion sets up a molecular change which increases the material density of the fluid to the extent mentioned above. A similarly surprising chemical action is that palladium takes up 900 times its own bulk of hydrogen, the product being a white metallic solid;* and this law holds good in both the macro- and the micro-cosmos. Ad. Wurtz says: "We have a sound reason for comparing the little world in which atoms are rotating, to the great world in which the stars revolve;"† and although he only brings back this comparison to the fact that "in both all is motion," he cannot help admitting that the biggest worlds are only reiterations of the molecular structure. The law that simple bodies combine in definite proportions is without exception; and accordingly the coercive force which keeps the universe moving in a regular way can as little be located at a central point, as the coercive force which keeps up a nationality can be located in a ruling body in its capital, but must be diffused all through the country. A world can as little as a State keep up its energy by any power which is not its own. An analogy is man in being set down as a cell complex, or a differentiated form of individualised protoplasma. The amœba not only constitutes his origin, but cell-movement keeps up his life. "The cells devour and march,"‡ and rest stamps the blood-cell "with the impress of death."§ In the depth of the furrow of a nail

* HUGO SDRIFF, in *Florentine Lecture.*

† Ibid, p. 305.

‡ GREY: *Histology*, Cutter's transl. p. 12 (New York, 1876).

§ Id ibid.

"youth prevails; at the upper border which we trim, old age."* In menstruation, science claims that "the lining membrane is generally thrown off cell by cell; the process beginning always just within the internal os, gradually extending to the fundus, and at the same time into the muscular wall;† and Bondrut very acutely puts forward: that motion is not the consequence of the organisation of the human body, but that the organisation of the human body is the consequence of motion.‡

This is a grand idea, indeed, of infinitely more importance to science than the discovery of the rotation of our globe, which in its time frightened so intensely the *milites ecclesiæ*, whose indifference toward the reversion of philosophical notions in our own time is far less due to their political impotence than to the overwhelming force of these modern statements. There is no help any more against progress.

All-deciding for the dynamic theory is the part that the cell-motion need not any more be concluded from general reasoning; it has been *seen, revealed, by the microscope.* Waller-Cohnheim§ watched even the minutiæ of the migration of the colorless blood-corpuscles from out of the blood-vessels in case of inflammations, and we may pick out the pathological subjects at random, but it will without any exception be a dynamic relation which comes under survey. Fear and anger even," Broussais says,‖ "doubtless indicate to us the movements that occur in the tissues."

There was a great deal more in the third law of motion of Sir Isaac Newton: "To every action there is always an equal and contrary reaction," than even his most fervent admirers had foreseen. It was a physician, Dr. Mayer, of Heilbronn, "who first raised the idea of the equivalence between heat and mechanical energy to philosophic clearness in his own mind;" and Professor Tyndall, from whose excellent work,

* Id ibid.

† TH. ADDIS EMMET: *Principles and Practice of Gynæcology*, p. 152. (Phil., 1880.

‡ *History of the Medical Doctrines*, page 476.

§ Cf. WAGNER, (transl. by SEGUIN) *Gen. Pathology*, p. 250 sequ.

‖ *Physiology Applied to Pathology*, p. 79.

Heat as a Mode of Motion, we cite this sentence,* very judiciously adds: "Those who reflect on vital process, on the changes which occur in the animal body, and the relation of the forces, involved in food, to muscular force, are led naturally to entertain the idea of interdependence between these forces." The Homœopathists and Allopathists may continue to differ about the application or interpretation of the general principle of disease, and of its cure. But they must agree as to the necessity of the law of the conservation of energy by transformation entering into it as its main and most essential constituent. And this point IS THE ONE ABOUT WHICH ALL SCHOOLS AGREE, indeed. This is demonstrated in the fever-theory, "which has always been the mirror of pathological systems,"† and Wagner in his masterly *Historical Sketch of Recent Fever-Theories* furnishes ample proof of this development of the medical conviction into the dynamic theory; medicine, or, I should have said, great physicians with their innate gift of intuitive divination foreshadowing natural science, and establishing in a particular sense and application the dynamic theory long before its very trace was extant in abstract learning. Wagner says: "the first results of the application of the new doctrines of physics to the organism, were the propositions which the later mechanists of the seventeenth and eighteenth centuries had advanced; and accordingly their school represents the beginning of Positive Medicine. They abandoned the exclusive regard in which the heat of fever was held, raised the pulse out of the symptom-group, and gradually introduced the movement of the blood into the notion of fever. This was especially brought about by Boerhaven and his school."‡ Even negatively the development of the fever-theory illustrates our general principles of medication; for Cullen's idea of chills being caused by a spasm of the most external blood-vessels sustains in its essentiality the dynamic explanation of all bodily functions. Haller's discovery of the irritability of muscular fibre as a mode of life cleared

*Cf. p. 52.

† WAGNER, by Seguin: *Gen. Pathology*, p. 648.

‡ Cf. WAGNER, by Seguin, l. c., p. 685.

the ground still more for the dynamic hypothesis, to which Marcus' statement points in a quite new direction: "Fever is always an affection of electrical element in arteriality by which this is made to contract." Broussais endorsed the conservation of energy in dwelling extensively upon the interdependence of the action of the different organs in fever; and T. Muller confirms this standpoint by giving physiological details: "The modifications of sensation, motion, and of organic functions, excretion and production of heat which are characteristic of fever, are only comprehensible by the participation of such an organ as the spinal cord. Since fever is produced by nothing so easily as by changes in the activity of capillary vessels in any part, it is very reasonable to suppose that in fever certain impressions, starting from a severe affection of the organic nerves of any part, are transmitted to the spinal cord, and thus reflected through all the nerves."* The fever-definition of Justus von Liebig sounds as if it had been composed on purpose to serve as a prop to our general exposition; for the great chemist says: "If in consequence of a morbid change of parts of the living body an amount of force is produced greater than is necessary for normal movement, there necessarily ensues an augmentation of a few or of all organic movements, and in consequence we have increased temperature, that is to say fever; the superflous force which can only be consumed in motion is transformed into voluntary movements, and so produces the febrile paroxysms."† Baron Liebig's theory was, however, deficient as to the negative element in fever. This was supplied in the noble strife which took place between the eminent medical scholars following in his wake, men like Claude-Bernard, Frank Wachmuth, Senator, whose enquiries settled down to the more or less general recognition of the theory that fever is "the result of at least two processes, of which the one increases heat-production, while the other paralyses the regulation of heat which takes place through the nerves, and which, when they occur together, give rise to the succession of phenomena which con-

*WAGNER—Seguin, ibid., p. 688.

† Ibid.

stitute a febrile period."* "In fever the utility of the skin is impaired to an important degree, because under the influence of the cause of fever an enormous irritability and irritation of the blood-vessels are produced, in consequence of which they are, from the beginning of the fever onward, occasionally contracted, and thus the equalisation of heat is prevented."† This is in full accordance with natural science: "There exists a perfect reciprocity of the power of a body to communicate motion to the other, or to radiate; and its capacity to accept motion from the other or to absorb."‡ On the medical domain as well as in the remainder of the physical world the dynamic law obtains that *a given quantity of heat absolutely passes out of existence as heat, in producing its equivalent of work.* The bodily heat is raised because it is not spent in doing work: that is to say, not expended on the functions of the respective organs, principally the skin. "When a gas expands suddenly its temperature falls, because a certain amount of its heat passes out of existence in the act of producing mechanical effect."§ This expansion is defective in pyrexia; therefore the heat. "This is quite analogous to the case * * * when a given quantity of steam is blown through the engine from the boiler into the condensator without doing any work, when we find that the quantity of heat which goes into the condensator is larger than the quantities of heat which goes into it while the engine is doing work. In precisely the same way, then, while the current of electricity is employed in actually lifting a weight, or in driving an electro-magnetic engine, the current which is passing along the wire is feebler than before, and corresponds, according to a great discovery of Faraday's, to a less amount of chemical combination (that is, a less rapid consumption of zinc) in the battery. The battery has really less hard work while driving this electro-magnetic engine than it would have if we were simply to stop the engine and allow the current to pass and develop heat in the conducting wires and cells. It must do something. The

* WACHMUTH, 1865.

† SENATOR, 1873.

‡ TYNDALL: *Heat as a Mode of Motion*, p. 304.

§ STEWART: *Conservation of Energy*, p. 112.

current of electricity always fritters itself down into heat in time, unless you utilise it and change it into a form of energy more useful than heat."* *Omne simile claudicat.* It has to be taken, therefore, *cum grano salis.* But with this restriction the analogy of the human system and an electric battery holds good.

Up to a recent period, relatively speaking, all definitions of life were mere guesswork, spiritual sallies for which their authors were duly credited, but which in most instances did not, by abstract knowledge, add anything to what the intuition by the fact of being conscious of life taught us about it. Natural science in the last hundred years, with giant strides, approached nearer and nearer this greatest of all problems of existence, and at our own days this approach is being accomplished by experiment and demonstration. It is not from his writing table any more, but from his laboratory, that the scientist informs us of the progress of his investigations; every step he takes is a fact, and every notice he gives of the moving onward of science is a ratiocination about the relation which the single facts discovered bear to each other. The physiologists, Oscar Loew and Thomas Bokorny, appear to have discovered the molecular difference between living and dead protoplasm, and they claim that it is the greater energy of movement in the former which is to be considered as the atomic essentiality of life.† They succeeded in watching the changes going forward in Algæ spirogyros, on which they experimented, and concluded from the chemical reactions that life is due in protoplasma to the occurrence of aldehyde groups which they discerned in albumen and which excel in a great intensity of the atomic movement. They the modification of protoplasma see in a conversion of the aldehydes into amydes, or rather in a change of the atomic configuration or of the molecular juxtaposition of the aldehyde- and amyde-groups.

I admit that this is only a hypothesis, may be, even, a very bold one. I am fully aware of the fact that the pretended

* T. G. TAIT, *Recent Advances of Physical Science*, p. 83–86.

† *Die chemische Ursache des Lebens* (The Chemical Cause of life), p. 7. M. 1881.

discoveries of Loew and Bokorny are far from being generally received. But this does not matter as to the subject we have on hand. If the fact of this contention should not be known I myself would have an interest in adverting to it. For from whatever reasons the conclusions of the said physiologists have been objected to, not one of their adversaries has anything to say against the general battle-ground which was chosen by the experimentators, *the dynamic theory.*

And this holds good not only as to the atomic effect of chemical medication, but even so much as to the most concrete process in minor surgery. A subcutaneous division of even such a powerful tendon as the tendo Achillis, in case of talipes equinus, will usually heal readily. But it is sure not to heal at all *if* there is no inflammation, and the reason is that the wound is deficient in healing motion ; or, so to say, the body of dynamical power. Consequent upon the operation of tenotomy the cut ends of the tendon will retract, and it is self-evident that they can never approach again and reunite ; the different position the foot is assuming immediately after the operation, on the contrary, separating them still more unless they grow, and this growth is an utter impossibility, without a movement of the juices of the body, in this case the throwing out of plastic material which takes place subsequent to inflammation of the capillaries, these distributors of all nourishing and building-up matter. On the other hand, suppose the cut by a scalpel or sharp-pointed bistoury, before introducing the tenetome, having been made rather large, and no antiseptic dressing having been applied, and bacteria (not air, as was formerly supposed,) granted access to the wound, the inflammatory process which is in itself or in its pure form so salutary, will speedily assume a malignant character and give to the operation a fatal turn. Thus, we see, motion, stirring substance, is indispensable for every pathological process.

All definitions of disease, more or less from the remotest times up to the very day of Mayer's discovery, had in view the equilibrium of forces, of which the law of conservation of energy has become the first adequate scientific expression. Even the ancient East Indians give testimony in their old

medical writings * that they saw health in a certain harmony; for they called sickness a disturbance of the normal functions of body and mind. More distinctly this was pointed out by Hippocrates,† who was of opinion that health consisted in a certain evenness of the humours of the body, whose inharmonious interchanging action, according to him, caused disease. The Greek-Roman founder of the "methodical school," Asklepiades, of Prussia,‡ followed up an almost modern course of thought in declaring sickness to be an unruly movement of the smallest particles of the body. Galenus § claimed sickness to be a painful, unnatural disposition of the solid and liquid parts of the body, and a disorderly mixture of its juices; and Paracelsus‖ held it to consist in a disorderly proportion of sulphur, salt and mercury, claiming besides that all in nature is metamorphosis, the being that arises preying upon some other one going down. Francis de la Boe,¶ the founder of the iatro-chemical school, defined sickness as the prominent acting of only one of the acid and alkaline constituents of the fermentation going on in the body. His follower, Thomas Willis, of Oxford,** in like manner saw its cause in fermentation and frothing, in which with him vital spirits played a prominent part; while the founders of the iatromathematical school, Santonio Santoso, of Capon d' Istria,†† and Lorenzo Bellini, of Naples,‡‡ saw sickness in a "stasis" or congregation of pointed and edged crystals in the blood which would be unable to perforate the pores, thereby causing a mechanical sharpness as the source of the different evils and troubles mankind is subject to. Sydenham,§§ surnamed the the modern Hippocrates, did not deserve so much of the profession by promoting medical theories rather than by leading back to rational practice; but in doing so he dwelt extensively on the character of action peculiar to all disease; which standpoint with more precision, perhaps, was taken by Boerhaave,‖‖ who in so many respects was his equal. According to this

* From 1000 bef. Chr. † Born 460 B. C.
‡ 128–56 B. C. § 131–201 (210?) after Chr. ‖ 1493–1541.
¶ 1561–1635. ** 1622–1675. †† 1561–1635.
‡‡ 1643–1704. §§ 1624–1689. ‖‖ 1668–1738.

greatest of all Eclectics that ever lived, sickness is the state of the body when its "*movements*" are disturbed and unsteady, and do not get on except with difficulty. Henceforeward, in no definition was the dynamic element ever lost sight of The systems of Friedrich Hoffman,* the founder of the mechanico-dynamic school, of William Cullen,† the founder of the neuro-pathological school, and of Anton de Haen,‡ the founder of the older Vienna school, did not differ about the proposition that life is motion, and disease a disturbance of the normal manifestation of this motion, but only about its causation and effects, and about the special application of the general principle. Even John Brown,§ although he prided himself to be original, founded the system called after his name, on dynamics; setting forth excitability generally as the cause as well of health as of disease, of which idea the "stimolo" and "contra-stimolo" of Giovanni Rasori, of Parma,‖ Italy, was a bad copy; while Schonlein,¶ who was a celebrated clinical professor of Berlin, Germany, refused the best idea of Brown, to which Roschlamb, of Marburg, Germany,** emphatically adhered, viz.: that there is no diametrical opposition between health and disease, either being only a modification of one and the same motion, life. Nevertheless, Schonlein recognised disease as a dynamic element; he considered it as a kind of parasitic *generatio æquivoca*, an individualised alien intruder preying upon the body of man; whose health, in his opinion, was a result of the dynamic powers of the individual overpowering the dynamical powers of the planetary system—a conception which needs only a different wording to be brought up to the standard of Charles Darwin and Ernest Hæckel and their schools. Among the prominent authorities at the present day we mention Henle, of Gottingen, who calls disease a deviation of the normal, typical, that is: healthy, process of living; a modification of health brought about by an expenditure of the normal force under exceptional circumstances. Virchow, of Berlin, and Bonchut, of Paris, agree with him, although each of these two expresses

* 1660–1742. † 1709–1790. ‡ 1704–1776. § 1735–1788.
‖ 1763–1837. ¶ 1768–1835. **1768–1835.

himself in a way peculiar to the standpoint which he is occupying with reference to secondary points. Life, says Bonchut, is impressionability. Diseases, therefore, are nothing else than altered impressions. Virchow denies that there is in reality such a thing as sickness. Life in its essentiality being cellular movement, kept up by outward irritating agencies, which produce an effect on the innate forces and capacities, sickness is only an abstraction. Either of the two, health or disease, is life itself; or if you prefer, the constituents of it. Even in mental disease science has come to the result that it consists of a dynamic process. Dr. Bucknill regards insanity as "a condition of the mind in which a false action of conception or judgment, a defective power of the will, and an uncontrollable violence of the emotions and instincts, have separately, or conjointly, been produced by disease."* Broussais states† that he cannot seize the *quomodo* of the manifestation of thought in consequence of the movement of matter. But he says, nevertheless, that it is true that we notice it; he does not doubt, of the human intelligence being a manifestation of the movement of our brain, as a physiological fact.

After all this exposition there can be no doubt that, be the minor dissensions whatever they may, the *agreement about the general character or principle of disease is universal*. Natural science established it, and medical science cannot help accepting it. Yea, medical science, to a certain point, preceded natural science, able practitioners establishing in their definitions of disease as a GUESS what experimenting chemists and investigating physicists, after centuries of research succeeded in proving as true. And it will be admitted that, in venturing upon a definition of disease which fully realise the fundamental character of natural science in all medical matter, need only interpret the great physical law of the conservation of energy and the implicit medical adherence to it in order to hit upon a formula the tenor of which will give satisfaction. The exact wording will, of course, remain a matter of taste,

* BUCKNILL and TUKE: *Manual of Psychological Medicine*, p. 23, (Philadelphia 1879.

† L. C., p. 101.

and as to that I do not doubt but I shall soon be improved upon. But as to the meaning of the definition there can scarcely be a dispute about the formula to be chosen ; for as to essentialities the cited authorities are pretty determinate that disease is *a disturbance of the individual conservation of energy in the body by a deviation of its dynamic powers from the harmony of their function, and their change to a proportionate activity less favorable to a resistance against death.*

Disease is not an absolute disturbance of the conservation of energy, because there is nothing of the kind in nature. But it is a disturbance relative to the conservation of energy which constitutes health in the human body. It is, therefore, dependent on an improper manifestation of the dynamical powers of the individual, the criterion of which can, of course, be nowhere else found than in a subjective condition ; it is, as Bichat in his *Recherches Physiologiques sur la Vie et la Mort* correctly suggests: the greater or less tendency to lead to dissolution which constitutes the value of a dynamic manifestation in the body.

Having got thus far, every one who has as attentively as kindly accompanied me in my exposition to the point we have reached, will admit that we are now fully justified to put in shape a formula of the therapeutic principle which we must claim that science has decided upon, although we meet nowhere with its full and adequate expression. As to the exact wording of this formula I admit again, as in the case of formulating the definition of disease, that there can be a great difference of opinion, and that the proposition I am about to make may justly deserve the censure which critics used to have in store for such propositions. But as to the idea itself, science and not only natural philosophy but medicine also, have the pronounced so definitely that there is no room for earnest dissension ; and we must proclaim as resting in general scientific principles of therapeutics the maxim: *Moveantur secundum indicationem motionis !* (Medicate and operate according to dynamic indications !)

This maxim is not only in full accordance with all modern physical researches, but it satisfies all just desires of the profes-

sion; giving full scope as well to doctrines of all schools which keep within the line of scientific restriction, as to all individual fancy of medical intuition which does not transgress the line of demarkation for all true medicine, as the art of instantaneously applying to particular cases or under peculiar circumstances the general rules and theories abstracted from average conditions, and hoarded up in the collective and systematically gathered experience of all countries and centuries: Science, a task, by the by, in reference to which the old saying may hold good, that one pound of learning requires ten pounds of common sense to apply it. We cannot at all events set down any other maxim of general therapeutics which rest on scientific ground, because all items in health and disease to be considered from either a physiological or a pathological, from a hygienic or a therapeutic standpoint, are of a dynamical nature, and all substance to be given either as a remedy or as nutrition, either as a surgical application or as an exhibition belonging to the department of inner medication, cannot but be in its effects of a dynamic character, so that there is always *motion* of whatever kind it be, of the construction or of the structure of the body, of the limbs and muscles, or of the molecules and atoms, which cannot be met with but by *movement*, whatever be its quality, mechanical, dynamic, electric or magnetic. The dynamical maxim, *moveantur secundum indicationem motionis*, comprises, therefore, all guiding which the practitioner may glean from either of the maxims in use or any other that might be thought of. There is in it as well the valuable instruction of the Homœopathist to make use of a remedy that by being akin to the malady may have a hold upon it, as there is in it the wise direction of the Allopathist to do it in a way that is contrary to the disease to be cured. But there is in it no restriction which limits its use and applicability to cases exclusively pathological, so that the important physiological consideration of the Eclectics is also provided for in it. Moreover it contains one element which is a constituent of neither of the forementioned maxims; it gives a direction as to the relativity of the dose, without limiting itself, however, to any special theory; and thus it holds good in all and

every respect. All specialists, as well those of a surgical as those of a medical cast, may go by it; it serves the oculist and the otist, the laryngologist and the dentist, the obstetrician and gynæcologist, the hydropathist and the movement-cure man, the electrician and the mesmerist, the neurologist and the syphilologist, the dietarian even and the hygiene-practicing physician: in each and every case that can possibly recur the medico-professional question is a dynamical one, and its successful treatment cannot be undertaken in any other direction than that which is understood by *moveantur secundum indicationem motionis;* or, less broad, more to the point, and in plain English: *Treat with similars, contrary to disease, or otherwise, but always according to the dynamic relation of the curative agent with the particular case.*

There has been a fundamental idea pervading all through the history of the times—all work of the human mind. It is a general thought to which all special arguments, as well in the writings of Hippocrates as in our modern works of experimenting research, refer, and which in spite of all spite in diverging schools, has all this time remained the neutral ground upon which regulars and irregulars could not help meeting peaceably; although very often each did its best to spoil it, and neither gave himself much trouble about the most expeditious way to promote it, viz.: *harmony.* But there is a characteristic difference between the times of yore and our own. While in the days that lie far behind us harmony in science was only a *petitio principii*, it is nowadays the result of exact investigation of matter and force. The healthy equilibrium of the forces of the body presented itself by intuition always as an urgent necessity, but science lacked the intellectual means of satisfying this vital requirement theoretically. Now science has got that far, and consequently it would be a squandering of our theoretical riches if we were to build up our medical practice on any other principle than that of the universal relativity of matter and force, in which the healthy equilibrium of the dynamic powers of the body taken individually, as well as the conservation of energy, consists. On the entire domain of natural forces it is not their absolute

amount but their relative power by which the wished-for results are obtained. In selecting our drug or making any other therapeutic appliances we must set it down, therefore, as an altogether wrong principle to make use of a direct or in any way definite proportion. We have not in disease to deal with a dead weight, like a cart-load which requires the more powerful horses the heavier it is, but with a spontaneous dynamical manifestation which can very often be influenced by a trifling cause, whose substantiality is seemingly altogether out of proportion to the severity of the case. Not only in the drug-action, but also in other methods of remedial practice, electricity, hydro- and kinesitherapeutics as the quality of an application is influenced by the quantity applied, and by one and the same remedial appliances effects diametrically opposite can be produced. This refers even to mental medication. Very often a too-much of persuasion spoiled a case which might have been cured by some homœopathicity of mental influence; even the infinitesimal dose of not-saying-anything might have proved more beneficial than any positive therapeutic contrivance. Nor unfrequently such expectant treatment had the most marked effect upon the patient and proved to be the most powerful remedy; although it must be borne in mind that in such a case it was, perhaps, not so much the bare fact of nothing having been said as the congeniality of the person who had the wisdom at the proper moment to be still.

However, though it be there is no therapeutic maxim adaptable to the case except the dynamic principle for which I have proposed the wording: *Moveantur secundum indicationem motionis*, treat with similars, contrary to disease or otherwise, but always according to the dynamic relation of the curative agent to the particular case.

(C) OBSTETRICS AND GYNÆCOLOGY.

P. D. YOST, M. D., Chairman. W. T. GAMMILL, Acting Secretary.

STERILITY: ITS CAUSE AND CURE.

Opening Address by P. D. YOST, Chairman of the Section, St. Louis, Mo.

The cause of barrenness and the remedy for the condition is a subject that only interests the few; but the victims of sterility will be the most persistent and submissive patients on the list of the gynæcologist. They will be willing to undergo any operation or treatment that promises a shadow of hope. The opprobrium of being classed with the historic fig-tree is an apparition that continually haunts them. They long for the well-spring of pleasure, a child in the house, and will not be satisfied without it. I am aware of the fact that there are multitudes who, for various reasons, do not wish to "multiply and replenish the Earth." This is not the class of whom I am speaking; but it is the model wife, who will not be supremely happy till she is a proud and loving mother. It is this class and those who treat them that will be particularly interested in this subject. I might also mention the ambitious husband, who wishes to perpetuate his name and fame, as an interested party. He may be thought of as the one at fault, although supremely unconscious of the fact, and continually commiserating his wife's misfortune. I admit that there are not many pathological conditions that would destroy man's virility, yet there are a few. Some of these are congenital, others acquired. If the organs of generation are well developed and properly located and have never been the seat of inflammatory or venereal diseases that would destroy their secreting power or cause stricture, we may reasonably dismiss from our minds all doubts as to *him*. Yet, as we shall see by and by, he may be equally at fault. Should we wish to be very certain in regard to the seminal secretion, we can place a drop of the

recently-discharged fluid under a powerful microscope, and if normal the spermatozoa will be seen in constant motion. Or a pretty correct idea may be obtained by dropping some of the semen from the end of a syringe into pure water. If it is healthy, it will pass in distinct drops and will be readily diffused in the water; if unhealthy, it will be ropy and tenacious, and will not dissolve.

Having satisfied ourselves that the husband is virile, our attention must be directed to the wife for the cause of the sterility. The first thing that demands our attention is the generative organs. Are they well developed, and are their functions normal? Is ovulation and its epi-phenomenon, menstruation, regularly and healthily performed? And it seems to me that another question might be asked with equal propriety. Are the ovules healthy? To ascertain that they are normal, an examination might be made. The ovule passes from the genitalia from five to ten days after menstruation, and could be intercepted for the purpose of examination. To have procreation it is necessary that the spermatozoa come in contact with the ovule within the proper cavity, the fallopian tube or uterus. Any obstruction or obstacle that would prevent this union would cause sterility, as would also any condition of the secretions of the organs that might destroy the viability of either product.

I will now direct your attention to some of the common causes that may be looked for in a case of sterility, and very briefly indicate the proper treatment. After this, I will try to point out the cause of some of those mysterious cases in which none of the ordinary causes exist.

Atresia of the vagina or stenosis of the os uteri must be removed, if present, by dilation with tupelo or sponge tents—or uterine dilators.

A polypus obstructing the cavity of the cervix may be removed by torsion, with the ecraseur, the galvano-cautery, or by injecting the pedicle with equal parts of carbolic acid and olive oil. Fibroid tumors do not necessarily cause sterility.

Atrophy of the uterus, congenital or acquired, can be over-

come by stimulating this organ in various ways, by the use of such means as the intra-uterine stem-pessary, used with great care, by dilation, and by uterine tonics.

Hypertrophy of the uterus is a more frequent condition. It is generally the result of subinvolution, and is best treated by general and local medication. The uterus is like a sponge; it needs to be contracted, and for that purpose I give such agents as Senecio gracilis, Gossypium, Helonias, bromide of potassium, Alnus serrata, etc., internally, and use Pinus canadensis and glycerine locally.

Vaginismus, a hyperæsthesia of the nerves that are distributed to the osteum vaginæ, must be treated by dilation, or ecsection of the particular part affected. This may be a single caruncula myrtiformis.

The normal secretion of the uterine cavity and cervical canal is alkaline, while that of the vagina is acid. If either is excessively acid or alkaline, it must be neutralised by an acid or alkaline agent as indicated. Endometritis, or uterine catarrh, causing a free discharge, or a discharge of a tenacious character, will prevent the spermatozoa from passing into or through the uterine cavity. To remove this condition may require a long course of treatment, and it cannot be delineated in this short paper; but with a good general treatment, and the local use of fluid extract of Pinus canadensis and glycerine, equal parts, or fluid extract of Hydrastis and boroglyceride, you can soon relieve the case, and by perseverance with similar agents effect a perfect cure.

Obstructive dysmenorrhœa is usually accompanied by sterility. Not that the "painful periods" cause the condition, but the cause of the dysmenorrhœa is the cause of the sterility. This must be removed. If there be a fluxion of the uterus, straighten it out. Easier said than done in some cases, but by the skilful use of instruments it can be accomplished. And this may be said of versions and displacements in general. Many cases of dysmenorrhœa will be cured by the use of this prescription. R. Aconit, rad., tinct. ʒj; Pulsatillæ tr., ʒiij; Cimicifugæ tinct., ℥jss; elix. pot. brom., ℥ij. M. S. Half-teaspoonful three or four times daily in water.

Dyspareunia, or sexual apathy, is not necessarily a cause of sterility; as a woman may conceive without any sensation of pleasure during the sexual congress. I know many mothers of this class, who never had an orgasm, and yet have large families. All that is necessary on the part of the female is a healthy ovule, and normal generative organs. Over-feeding, luxurious and sedentary habits may be the cause of barrenness, as it is well known that poor people have more children than the rich and indolent.

General debility, but more particularly a special debility of the organ of gestation, may be found to be the cause. The uterus is not in a proper condition to receive and gestate the fecundated ovule, The soil, so to speak, has not been prepared for its germination. There is conception but not gestation. The condition is similar to that of very poor or exhausted soil. The germ cannot take root, nor obtain an adequate amount of nourishment to sustain the development of the embryo. Or the attachment may be of such a character as to allow an easy separation and an early expulsion. I had a patient a few years ago that had an ovular abortion every few months. It would occur at her menstrual period, which at times would be a few days overdue, and the discharge was always excessive. The pains were very slight, and I would have considered it simply a case of menorrhagia, had I not found the ovule in the clots of blood. This was abortion, the result of a diseased condition of the uterus, principally subinvolution, but it occurred at such an early period of gestation and was repeated so often that it was not regarded as such. It only illustrates what I have stated, that conception may occur without normal pregnancy fellowing. Here you have a condition equivalent to sterility. To treat these cases successfully will require the adaptation of remedies to the special conditions. Such agents as Viburnum, Caulophyllum, syrup of Mitchella comp., Senecio gracilis, with chalybeates, may be used combined or alternated as deemed best. With this we may also advise sea-air and baths, or a course of treatment away from home, and perfect sexual quiet for a few months. Electricity may be of benefit

to some. A stay at some of the various medical springs, with proper treatment, will cure many cases of sterility. In such cases as I have just mentioned, Dr. Sims advises sexual intercourse only on the second, fifth and ninth day after menstruation. The same author amputates the cervix uteri where it is too long and pointed, and the os is very small. He has also injected the seminal fluid into the uterine cavity with success. Lacerations of the cervix uteri and of the perineum might be placed in the list of probable causes of barrenness.

I do not intimate that I have enumerated all the conditions that might be discovered by a physical examination of a case of sterility; yet if I had done so there would be a few mysterious cases in which no physical defect could be discovered. I have seen such, and doubtless you have also. The parties are physically perfect and each organ performs its function normally. And perchance they have each demonstrated their power of procreation in a previous marriage. Yet when they are brought together their ability in this respect ceases. You have such cases in your mind. Can you account for them? They may be exceedingly anxious for children of their own to inherit their fame or fortune. If they have had such they have lived but a few years and died of the first severe disease that attacked them; or they died, as it were, of "old age" in their infancy or childhood. We say that they were deficient in vitality, but why? Their parents were strong, robust and healthy, yet the children all die in infancy. Can we tell why this is so?

The late Prof. Powell has given us some ideas on this subject. Those of you who have heard his lectures or read his works on incompatibility of the temperaments in marriage, will remember that he advanced the theory that persons of *exactly* the *same temperaments* could not have children, and those of *similar* temperaments would not have healthy offspring. That two very healthy people, with vitality enough to live the allotted time of man, might have children that could not live to the age of two years, or in some cases would not have the capacity of independent existence at all. He divided the temperaments into two classes—vital and non-

vital. The bilious and sanguine, or a combination of the two, made up the vital, while the encephalic and lymphatic were classed as non-vital, He says: "One of the parties must be exclusively vital, and the other party mnst as certainly be more or less non-vital. All marriages in contravention of this law are physiologically incestuous, and the consequences will be vicious in proportion to the delinquency."

Now, is there any truth in the statements of Prof. Powell? I have made many observations on this subject and am fully convinced that there is. I think he is right when he says that there must be a constitutional dissimilitude to assure healthy progeny; but can we tell this by the temperaments as given by him? This is the practical part, and I very much doubt his method. But I do not doubt that there is something—just what it is I know not—about one organisation that is better adapted to a certain analogous one than it is to another. Is it an opposite or similar constitution that attracts? We have all felt a mysterious influence drawing us toward certain persons, and perhaps the same thing reversed repelling us from others. May not this same power extend beyond our consciousness and affect the germ-products, causing them to unite or repel each other? Or if there is a union, it is such an imperfect or feeble one that it is doomed to early decay. Certain chemical agents unite perfectly, making a compound superior to either single agent, while others unite but feebly; and there are some that will not unite at all: they are incompatible. Or like electricity—the positive and negative attract while *similars* repel. The knowledge of these things is of recent discovery, and may we not hope to find out ere long the laws that affect the union of the germ-products?

Is the animal magnetism of each individual different in quality, or only in degree? Or is there a quality or quantity of electricity peculiar to each body? If so, can these conditions be estimated or ascertained by any possible methods? Is it probable that an apparatus on the order of an electrometer would indicate this magnetic or electric condition? If some discovery of this kind should be made—say, for instance, that we find two extreme opposite conditions, like positive

and negative electricity, to be the most compatible, we could easily, with accurate methods for determining their conditions, decide as to the adaptability of all connubial aspirants. With these extreme conditions they would not only be physiologically compatible, but they would be *genuine affinities*—sure of offspring and healthy ones too.

Now, speculation aside, ought we not to give more attention to this subject? Can we not arrive at some conclusion and let every one know, especially candidates for matrimony, that they might have some regard for the result of their alliance? We are very thoughtful about our stock, to select the very best for breeding purposes, and we do not expect perfect plants from unsound seed, yet how little thought is given to our own propagation. It is often a mere matter of chance or of social position that brings couples together; they fall in love at first sight, and imagine that they were created expressly for each other; that the match was made in heaven. So they marry in haste and often repent at leisure. Would it not be better to stop these persons—even on the very threshhold of matrimony, than to allow them to rush blindly into a union that would result in nothing but discord and infelicity? What rational being would voluntarily enter into a union that would be mutually unpleasant, and that would result in bringing into existence offspring that would be in some way imperfect? Shall we not, then, do all we can to frustrate improper marriage-alliances, and encourage only those that are based upon the proper compatibility, and thus greatly diminish the number of domestic broils, divorce-suits, imbecile offspring, and perchance cases of sterility?

CRIMINAL ABORTION.

By William S. Latta, M. D., Lincoln, Nebraska.

Perhaps the abortion of offspring is at this time the greatest crime in the nation. Doubtless there is not a practitioner in our National Association who has passed a year without being

asked to administer drugs to destroy the existence of an unborn human being. The highest instincts of our nature are violated for this purpose. Human beings, claiming to be the crowning glory of creation, to have immortal souls, to possess the light of reason, and to be accountable to their Creator, are the notable perpetrators of such crime. They embrue their hands in the blood of their offspring, imperilling and sometimes losing their own lives. Nor are they the ones styled ignorant, degraded and vicious, that are thus guilty; and certainly not the woman who loves her home and reaps the dearest enjoyment in the bosom of her family,—but the "society-ladies," who pride themselves in being leaders, who are stylish, educated and refined, but who lack in that higher quality, moral rectitude. I have heard such women say that they were determined to be rid of their unborn offspring if it cost them their lives; they did it and many times paid that fearful price.

The oldest mention, perhaps, made in history of this practice is found in the *Hippocratic Oath.* In this the preceptor imposes upon his pupil the obligation: "I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion." Thus we see that 2400 years ago, among that most enlightened people the Greeks, abortion was ranked with murder, and to give a woman the means for producing it was considered equal in turpitude to supplying an individual with poison for suicide or assassination.

Uneducated persons and even physicians are not convinced in regard to the period in gestation at which it becomes criminal to produce an abortion. There has been much speculation and vague theory in regard to it. It was generally conceded in ancient times that after the union had taken place between the corporeal and spiritual nature, it was criminal to destroy the unborn infant. Before that period the fetus was *pars matris viscerum*; after that it had become morally and physically a human being. Hippocrates believed this to occur some time from thirty to forty-two days after conception. The Stoics held that there was no proper complete vitality

till after birth and respiration. The earlier Academics maintained that the embryo was an ensouled being; the later ones that the soul was imparted at some period during conception; and in accordance with a similar notion, writers of the Church of Rome describe fetuses as animate and inanimate. Some describe animation as beginning in three days, others in seven, and others the fortieth or sixtieth day, when "pullulation" or the complete organisation is effected. The general belief at the present day fixes this union at the period of quickening, about the end of the fourth month of pregnancy; and it is remarkable that many physicians giving the matter little thought, fall in with this erroneous notion.

Physiological Science, however, shows that the ovule is perfected in the ovaries and travels a distance of three or four inches through a narrow tube to the uterus, where it is impregnated and becomes "animate;" having acquired from the male semen all the essentials of life which it will receive from either parent. To be sure it requires a nidus or nest for protection, and finds it in the womb of the mother, which also affords it a means of deriving its nourishment from the blood till it shall become sufficiently developed to maintain an independent existence. All this time, nevertheless, it is a distinct individual and no more a part of the mother's intestines than it is a part of her bosom after birth when drawing thence its nutriment.

The eggs of the butterfly deposited on the limb of the cherry-tree would never hatch, but for the sap in the living stock. If the limb should be cut off they would perish with it. This shows to a certainty that the sap of the tree is necessary to the development of the caterpillar, or butterfly in embryo. Yet nobody would think for a moment that the moth was any part of the tree. In an analogous manner, After the ovum is separated from the ovary and quickened by the sperm, this fetus now deposited in the womb sustains a similar relation to the mother, till the period of birth; it draws sap or nourishment from her while it is developing its own organic structure by its inherent energies.

It is a trite adage that "like begets like." The fact is uni-

versally conceded that the child resembles the parents both physically and mentally. It is indeed wonderful that in complexion, the color of the eyes or hair, in build or stature, and even sometimes in minor peculiarities, like a disfigured lip or additional toe, this resemblance should be transmitted; but it is far more so, that the moral, spiritual and intellectual nature should be imparted to offspring. Mysterious as this is, the mental characteristics of parents are observed in modes of thinking, speaking, moving, the expressions of the face and the motions and attitudes of the body. Now, at what time was this nature received by the child, except at the moment of conception? The ovule does not come into contact with the paternal sperm till it has parted from the maternal structure; and its attachment subsequently to the wall of the uterus is very similar to that of the eggs of the insect to the limb of the tree, for the purpose of nourishment and protection. It must have already have been imbued with the characteristics, physical, mental and spiritual, which it can receive from either parent. If the father should be transported or shot the next hour after conception, it would make no difference in the child's development; the child of the African would not be made white, nor that of the Caucasian black. Neither can the mother impart more to the offspring than to afford it nourishment, simply as the sap of the tree nourishes the worm in its branches.

The statement that the fetus is inanimate or without soul for a period of three days, or forty-two, or one hundred and twenty days after conception is absurd. A man ought to be ashamed to advocate such a notion. To call it inanimate, unsouled, while living, growing and developing from the moment of conception till birth! Aye, and only continuing to develop after that period, through infancy and childhood, manhood and old age; and even then looking forward to a state of being in which will be infinite development as well as unlimited duration.

With these facts in view, we ask again: At what time in the course of gestation does it become criminal to produce an abortion? Or, in other words: At what time is it not criminal to do so? At what time is it any less than murder?

The opinions of medical men must modify the popular sentiment, influence tribunals of justice, and even affect the conclusions of the theologian and philosopher. The statutes of the various States and countries have been framed in consonance with them; and hence, unfortunately, most of them are founded upon error. They embody the theory that there is a period between conception and animation, which some regard as "quickening;" when it is a trivial offense to produce an abortion. Even in old Massachusetts, several years ago, it was not indictable to do so prior to quickening. Ancient legislation was based upon such erroneous theory. The Stoics held that the unborn child was merely *portio matris viscerum*—a part of the intestines of the mother. The crime was accordingly treated as comparatively venial, and the laws took little notice of it, pursuant to the maxim: *De minimis non curat lex.* About the end of the Seventh Century a different sentiment prevailed and the decrees of the Roman Empire declared the procuring of abortion to be homicide and punishable with death. The Roman law was perpetuated in France till the Revolution, when the penalty for this offense was changed to imprisonment for twenty years. In 1810, under the *Code Napoleon* it was further reduced.

The Common Law of England, as formulated by Blackstone, accepts this erroneous hypothesis, that the fetus prior to quickening is in a different state from what it is after that period; and hence it does not recognise the procuring of a miscarriage before quickening as a crime; and even after that epoch the offense as declared to be not murder, but a serious misdemeanor. *Iris rerum natura non;* the killing is not murder. But in the reign of George III., and since that time, the British Parliament have enacted special statutes upon the subject; and the procuring of an abortion, at whatever period of gestation, is declared a felony, to be punished by transportation or imprisonment.

It was not till about 1856 that the subject received due attention in our own country. Professor Storer, of Harvard University, and his son Dr. Horatio R. Storer, then began to agitate the question; and in 1857 the American Medical As-

sociation appointed "a committee of leading physicians in different parts of the United States to investigate the extent of this crime and to report what legislative enactments were necessary for its suppression." Since that time much has been said and written on the subject by writers on Obstetrics and diseases of women, as well as by those treating of Medical Jurisprudence and morals generally. Appeals have been made to Legislatures and laws have been procured from them which were actually in advance of public sentiment. If members of the medical profession were excusable in former times for their conduct in the matter on account of their imperfect knowledge of Physiology, they can have no such excuse now.

What can be done to stay this terrible evil? Who should take the lead? The question is answered by another: Who are almost entirely responsible for the fact that this crime is committed? Aye, who are able to accomplish the most in reforming this condition of things?

Perhaps it will be pleaded in reply, that physicians are not the perpetrators in all these crimes. It may be that they are not such directly; yet they are ready nevertheless to fly to the assistance of the woman that has attempted the act; often they have given her important hints as to how to begin it and they will finish it up for her, often having thus escaped the penalty of the law. It is as criminal to instruct such a woman in the use of the instruments, as to commit the actual offense. A woman who had been so taught, carried on the nefarious work in the city where I live; and if the new-fangled doctrine is true that there is no hell for such individuals, then "somebody has blundered."

What has this National Eclectic Medical Association to do with this matter? Much every way; but especially to employ our influence aright, individually and collectively. It is not enough that we have adopted resolutions years ago condemning perpetrators of this crime. We ought to engage in the full discussion of the subject, so as to exhibit every feature of the crime. We should punish every member by expulsion who may be guilty in the matter, and turn him over to the civil

authorities. We should prepare bills for the various Legislatures and appoint committees in each State to work for this enactment.

It is not only for us to point out the kind of legislation needed, but to instruct the people, especially the women, in relation to this matter. We should endeavor to impress upon them their duty and show them the peril to life and health which is incurred by this crime; and more than this, we should refuse to perform or countenance the act, except it is necessary to save the life of the mother.

Jeremy Taylor has eloquently declared: "A good wife is Heaven's last, best gift to man, his angel and minister of graces innumerable, his gem of many virtues, his casket of jewels; her voice is sweet music, her smiles his brightest day, her kiss the guardian of his innocence—her arms the pale of his safety, the balm of his health, the balsam of his life; her industry his surest wealth, her economy his safest steward, her lips his faithful counsellors, her bosom the softest pillow of his cares, and her prayers the ablest advocate of heaven's blessings on his head." Yet while gladly acknowledging all that this imparts, we must not forget that woman's safeguard is her offspring, and guard this with utmost vigilance from the earliest inception to the fullest maturity.

I will conclude by repeating a poem, the supposed production of a woman that has passed from this life into the world beyond. She acknowledges a life of crime, and charges another with having been the instrument or instigator. It is applicable to physicians who give their services to this nefarious work—who are partners in the crime if not principals.

I have done at last with the bitter lie,—
The lie I have lived these many years,
I've hated myself that I could not die,
Body as well as soul. What! tears?
Tears and kisses on lip and brow,—
What use are tears and kisses now?

'Twas not so hard. Just a kerchief wet
In the deadly blessing which quiets pain,

And backward the tide of suffering set,
Peace swept over blood and brain,—
Utter peace to the fingers' tips;
And now these kisses on lids and lips.
Sweet caresses for lips all cold,
And loud lament for perished breath,
For the faded cheek and the hair's wan gold,
But not a tear for the sadder death
I died that day. How strange the fate
That brings your sorrow all too late!

All these years in my dead, dead, heart
I've met the world with smiling eyes:
I feigned sweet life with a perfect art.
And the world has respect for well-told lies,
And I fooled the world, for no one said,
"Behold this woman: she is dead."
And no one said as you passed along,
"Behold a murderer." No one knew;
You carefully covered the cruel wrong:
That the world saw not was enough for you.
You had wisdom and worldly pride,
And I had silence,—for I had died.

The world says now I am dead; but oh,
Lean down and listen. 'Tis all in vain:
Again in my heart bleeds the cruel blow,
Again I am mad with the old-time pain,—
Again the waves of anguish roll,—
For I have met with my *murdered soul.*

Oh never to find the peace I crave,
'T were better to be as I have been.
In the peace of the fleeting years, I have
Eternity now to hate you in,—
Eternity now to feel the blow
Which your hands gave in the long ago.

OÖPHORECTOMY.

By A. J. Howe, M. D., Cincinnati, Ohio.

The formidable term placed at the head of this article has lately gained recognition in surgical and gynecological circles. It means about the same as ovariotomy, yet is made to signify the cutting away of *disordered* (hysterical) and not *disorganized* (cystic) ovaries.

The diæresis over the second ö indicates that we should pronounce the two vowels in separate syllables. For instance: O-ophorectomy or o-oforectomy.

Our works on gynecology lead us to believe that a skillful practitioner can sit down and spay a woman through the vagina as easily as he may open an abscess. My object in attempting to write at this time is to disabuse the credulous of any such preposterous idea. If the broad ligaments be lax and the ovaries drop deeply into the cul-de-sac of Douglass, it is not difficult to cut through the peritoneo-vaginal septum, and with the forefinger in the wound to seize and drag first one ovary and then the other into view, or within easy reach of excision with scissors. I have done this, and expect to repeat the operation; and I have failed, and may do so as often as I attempt to "reach apples when they hang high." Not long since I reached and excised one ovary, but could not even touch the other, though I pressed heavily the hypogastrium of the patient with my left hand. One ovary had descended, and the other was suspended beneath a tense broad ligament which had not been relaxed by disease.

The above leads me to state that a gynecologist cannot oöphorectomise a woman through the vagina unless her ovaries hang low in the pelvis. Recently I had an excellent female cadaver to test the matter upon. With the point of a bistoury I made an aperture through the peritoneo-vaginal septum, and then with scissors enlarged the opening. The vagina would not admit the hand, therefore I had to utilise the forefinger as an explorer. I could just touch the ovary on one side, yet could not fasten upon it and bring it down. A pair of forceps failed to select an ovary from intestinal folds. Heavy pressure

was put upon the hypogastrium, yet the downward thrust would not push an ovary into the recto-vaginal fossa. This experiment convinced me that the ovaries are easiest reached through an abdominal incision. This may be made in the median line, half way between the umbilicus and pubes, and be four inches or more in length. The aperture admits the hand, which finds and examines either ovary. If it be determined to remove the organs to get rid of epilepsy, menstrual disorders, exalted sexual excitement, and such mental perversions as are supposed to depend on the ovaries, oöphorectomy may be executed. The novice in such operations must bear in mind that the ovaries hang beneath the broad ligaments, and not *above* them nor *in* them; and that they are within a plexus of vessels, arteries and veins. To avoid bleeding into the pelvic cavity, a ligature is to be thrown around the membranous structure which suspends the ovary; and then the organ is to be removed with scissors. If the ligature be of animal origin—silk or tendon—it may be left in the abdominal cavity without risk of exciting peritonitis. The safest way is to send an end of the ligature through a puncture in the peritoneo-vaginal septum, so that it may escape by the vagina. The aperture permits of drainage while the ligature is in position, and closes upon its escape. The abdominal wound is to be closed with silver sutures, one being left with long ends, so that it may be untwisted and the incision opened for the introduction of a catheter or drainage-tube.

All traumatic surfaces should be smeared with boro-glyceride scented with thymol, and care be exercised that "animal ferments" be kept from the wounds. So many fatal issues have been charged to the poisonous effects of carbolic acid when employed as an antiseptic, that the prudent surgeon will be cautious about using the agent in abdominal traumatism. Keith and Tait have reported deaths from the deleterious action of carbolic acid. In a recent paper, *British Medical Journal*, for February 17th, 1883, Mr. Tait says: "The question of Listerism has occupied a part of every paper I have read on abdominal surgery for the last six years, and I hoped that this year I should escape it; for, after trying

it thoroughly, and after having seen it practiced by many others, I have, for now nearly three years, entirely discarded it, as a source of no safety in abdominal surgery, but even of considerable risk. My published experience on this subject has been followed by that of Dr. Bantock, Dr. Keith, and lastly, by that of my colleague, Dr. Savage. Mr. Spencer Wells, in his last work, has confessed that it has entirely disappointed him; and Mr. I. Knowlsley Thornton stands alone in his support of it."

The somewhat inexperienced practitioner is too apt to think that ovarian disease must be that of cystoma or cystic disorganisations of the ovary; but if he ever examine multiple cases of diseases of the uterus and its appendages, he will encounter infæcation of the Fallopian tubes, with cysts and purulent cavities. Gynecological writers have swollen the nomenclature of female diseases till it is useless to consult the olden lexicons for an explanation of the new technical terms. We now encounter *hydrosalpinx* and *pyosalpinx* and I do not see why there might not be a complex name for occlusion of the Fallopian tubes.

I recently examined a "uterus and its appendages," in which there was not only ovarian disorganisation, but a degree of tubular distension and distortion that must have established incurable sterility. To diagnosticate such a case of complex morbidity demands skill acquired by varied experiments in abdominal surgery. Salpingian occlusion, the result of acute and chronic inflammations of the uterine appendages, is as common a cause of epileptic and hysterical cataclysms as is a morbid state of ovaries demanding oöphorectomy.

ANTISEPTIC REMEDIES IN OBSTETRIC PRACTICE

By T. Hodge Jones, M. D., Lamar, Missouri.

The conclusions which are stated in this paper are derived from bedside experience. The employment of antiseptic agents, it is insisted, may be adopted with great advantage in our obstetric practice. The two agents which I name

have not been particularly noticed by medical writers as possessing antiputrescent properties. In thus employing the chloral hydrate and the potassium chlorate, it may be that we are making a new use of remedies comparatively old.

Dr. E. J. Tilt, in his work on *Uterine Therapeutics*, page 256, remarks: "If the urine be putrid, I have found the employment of chlorate of potash in four to five grains to an ounce of water highly useful. In a case of this nature of very severe character, where life was in jeopardy, I ordered a gargle of chlorate of potash for the severe aphthous mouth. By mistake it was injected into the bladder instead of morphia. Immediately the putridity of the urine ceased and the patient began to improve in general state and in local symptoms. Directly the injection was used the change for the better was most marked."

In October, 1878, I had a puerperal patient, who, after two chills, exhibited pinched expression of face, tenderness over abdomen, shortness of breath, watchful uneasiness and incoherent utterances. The lochia were scanty, of offensive odor, and an acrid ichorous nature. Counsel being called it was agreed that we should inject into the uterus a solution of permanganate of potash in an infusion of tansy. During the preparation it was discovered that we had none of the permanganate, so I substituted the chlorate, and like as in the case cited by Dr. Tilt, the effect was marked and instantaneous. Our patient from reception of the treatment improved till she had made a complete recovery.

Since that time I have witnessed many good results following the administration of chlorate of potash. In my experience with puerperal conditions, when the discharges are putrid and excoriating, no agent has given more decided benefit. When metritis is acute and the discharges are fetid, relief is very speedy and marked after injecting into the uterus, a hot solution of potassium chlorate in pure water, ʒj to ℥iv. Or when we can notice bad breath, and if the bedding is disturbed, and a cadaveric smell proceeds from the patient, drachm-doses of the above solution, every one to three hours may be administered with almost certain change of the disagreeable conditions.

In extreme cases of septicæmia with high temperature, heat in vagina and os uteri, accompanied by putrescent lochia, we may, in addition to means already given, use cloths wrung out of a saturated solution of the remedy, folded and applied to the vulva; which at once removes any unpleasant odor and corrects the burning pain of the chafed surfaces. A case to point is that of my near neighbor, who had a tedious labor, October, 1880, followed by a profuse hemorrhage, which was checked by hot-water injections. The next day she experienced rigors, faintness and nausea. The discharges became fetid and suppressed; uterus enlarged and tender; respiration quick and short; her countenance expressive of agony; mind bewildered; bodily temperature, 104°; circulation, 110 per minute; and occasionally she vomited a greenish watery fluid containing dark-brown sediment. The os uteri and vagina were sensitive and hot.

The treatment just described was given to this patient and soon all the grave symptoms disappeared, so that in a few weeks she was fairly convalescent. After severe uterine hemorrhage following delivery, retained coagula may become putrescent and annoying; instances of which we see in abortions and hurried labors. Here again injections of a warm solution of the agent under consideration, may be relied upon for the necessary relief. In suppressed lochia with foul breath and general uneasiness of the patient, we administer the remedy internally and apply it topically, as before described, with assurance of a return of the lochial flow and an appreciable improvement in the patient's condition.

In cases of adherent placenta, and of instrumental delivery, the liability to septicæmia may thus be averted and many unpleasant coditions removed by use of the treatment suggested. In fact we believe a judicious use of the chlorate of potash may abort metritis, peritonitis, or any of the forms of puerperal fever, by arresting putrefaction and correcting the conditions present favorable to such a disease. No one will suppose it is intended to impress the idea that chlorate of potash is to be given to the exclusion of other agents that may be indicated; but given the proper conditions and we do say it will bring

speedy relief. Dr. Scudder says, in the *Eclectic Medical Journal*, 1882, p. 238: "The indication for chlorate of potash, is a peculiar fetor like an offensive lochia."

In obstetric practice we sometimes have to treat tedious and protracted labor. The patient suffering more and longer than is usual in parturition. Such cases cause friends to become uneasy and apprehensive of danger to the child, also to the mother. Puerperal fever and all its dreadful consequences are threatened, warning the physician to provide every available means to escape any unpleasant results. Well-directed professional skill, either medicinal or instrumental, adequate to the demand is imperative.

The suffering may be relieved by the administration of the following, namely: R.—Saturated solution of chloral hydrate in glycerine, and aromatic extract *aa.* O. S. Sig. teaspoonful every hour. It will procure rest, render the patient less sensitive to pain and allow labor to progress without so greatly taxing her powers.

The case of Mrs. F., primipara, November, 1879, furnishes an example worthy of notice. She had been in labor several hours; the pains, occurring at irregular intervals, were short and ineffectual. The vertex presented; the os uteri sufficiently dilated, was feverish and sensitive; the membranes ruptured and the genitals were scarcely moist. The patient was restless and seemed careless as to the consequences of her confinement. Her condition called loudly for assistance. The aromatic chloral mixture referred to, given in teaspoonful doses every hour, soon calmed the nervous excitement and she went into a sound sleep. The pains became strong and intermittent, the labor progressed well to completion in a few hours, while the lady was yet asleep. When she awoke her infant was dressed and in her grandmother's lap. So great was her joy, she grasped hold of me and exclaimed: "God bless you, Doctor; my babe was born and I did not know it."

It is difficult to estimate the degree of relief enjoyed by the lying-in woman under such circumstances. The contrast between a continuous endurance of keenly-excruciating pain, and being transported into a season of refreshing sleep, is suf-

ficient to prompt such expressions of gratitude. When we find the perineum partially ruptured and it does not readily heal, it may be caused to granulate and unite, by painting the rent with the saturated solutions of chloral hydrate in glycerine, and potassium chlorate in pure water, mixed in equal portions. This is a favorite prescription of mine, in the pathologic condition known as "nursing sore mouth." It should be applied with a camel's hair pencil, to the ulcers and raw surfaces, or by washing the mouth with the mixture as often as necessary. The remedy may be given in drachm-doses each three or four hours, which will induce sleep and otherwise add to the comfort of the patient. The fetor arising from the aphthous condition is corrected and the burning, scalding pain is completely subdued by careful and thorough use of these means. Of course, we get the stimulant and hypnotic effect of hydrate of chloral in the uses made of it; yet as a prophylactic it acts antiseptically. Thus M. Duitrieff, in a dissertation published at St. Petersburg, tested the effect of chloral-hydrate, both clinically and experimentally. By infection with putrefying matter (put into wounds), he produced unhealthy ulcerating surfaces. Some of these were left to the efforts of the system, and some were dressed with a two per cent. solution of chloral-hydrate. The ulcers treated became healthy and cicatrised before the others did. Dr. Dunglison says: "It has been supposed that something like putrefaction may occur in the living body." To this condition Piorry has given the name, "Typhohæmia." The description applies to puerperal patients suffering from the septic fevers; hence we use our two favorite remedies. The indications for hydrate of chloral are putrid emanations from the patient and a condition of irritable unrest.

ALBUMINURIA COMPLICATING PREGNANCY.

By C. EDWIN MILES, M. D., Boston Highlands, Mass.

It is now a fact well established that albuminuria is a frequent complication of pregnancy; but how frequent has not been accurately ascertained, so variable have been the statistics of eminent authorities. Some place it as high as 40 per cent. (Bartel), and others (Hofmier) as low as 2.74 per cent. The careful observer, however, will regard these estimates as the very extremes of the matter. And it will be understood that the percentages quoted refer to cases of simple albuminuria, and not to acute or chronic parenchymatous nephritis. In discussing this point Bartel asserts that only one case of acute nephritis occurs to from twenty-five to fifty of albuminuria. But so frequently does albuminuria occur in pregnancy that the caution has been suggested that when albumen has been found in the urine of a woman during the period of her liability to childbearing, it is well to keep in mind the possibility of her pregnancy.

In estimating the frequency with which albuminuria complicates pregnancy, it should be kept in mind that the disease may precede that state. This would eliminate pregnancy as a cause in such instances. Indeed it cannot be accurately stated just how great a proportion of such cases exist. It the present state of medical knowledge it is not always possible to distinguish those cases which arise during the pregnant state from those which existed unrecognised previous to the period of conception. It is a fact, however, that albuminuria is seldom discovered before the fifth or sixth month of pregnancy, and also that the attack, as a rule is of temporary duration. These facts strongly indicate that it is of recent origin, and probably has its rise, in a very great majority of the cases, after conception. The complication is most likely to arise in the primiparæ, although it is not uncommon in the multiparæ.

The symptoms are not constant; but when puffiness of the eyelids and face, or general anasarca are observed, especially if accompanied with dizziness and headache, and dimness of

vision, with scantiness of the urine, a careful examination should be instituted at once to ascertain whether albumen be not present in the renal secretion. If it be not found on the first test, and yet the symptoms mentioned continue, repetitions of the test should be made at brief intervals.

Albumen is almost certain to be found accompanying the preceding symptoms; and if they become aggravated, the existence of blood- and pus-corpuscles, hyaline-casts and epithelial cells will most likely be revealed in the urine under the microscope, and Bright's disease thus fully demonstrated.

It is to be remembered, nevertheless, that there are certain modifications in the acute parenchymatous nephritis of pregnancy that are not common to its ordinary occurrence, such as the suddenness of its development, even in those previously seeming to be in perfect health. Œdema may be absent, while the uræmic symptoms are far more frequent than in nephritis generally; albumen is found in larger quantity than usual, and hyaline-casts are very scanty, as a rule.

The pathological conditions of this disease, when complicating pregnancy, are similar to those found in it generally.

The prognosis of the disease, when complicating pregnancy, is always more or less grave. If the attack be recent, it is far more hopeful than if it has existed for a length of time. Such attacks as have preceded pregnancy are exceedingly precarious. It always increases the liability to abortion when it complicates early pregnancy, and provokes the tendency to premature labor in its later stages. That it predisposes to eclampsia is generally conceded at the present day. Hence, though no serious results have arisen from its presence in so many instances, it can only be a source of concern to the patient and her friends during her period of gestation and at the time of parturition, and also as regards her ultimate recovery, although she passes through those conditions without serious accident. While, therefore, great caution should be exercised not to create undue anxiety on the part of the patient in regard to her condition, judicious watchfulness should be used by those having her case in charge.

The causes of albuminuria complicating pregnancy are nu-

merous, and not always apparent. Indeed, in many instances, so rapidly does this condition pass away after parturition that they seem to be trifling and evanescent in their nature. In other cases, however, the disease invades the system so stealthily and progresses so persistently, and again it manifests itself so suddenly, and prostrates so profoundly, as to point to most energetic causes for the phenomena witnessed.

The pregnant condition necessitates an increased supply of albumen in the blood for the nutrition of the fœtus. An altered state of that fluid is thereby produced. It is by no means improbable that this condition of the blood renders its albumen more liable to be poured out through the kidneys. Then the pressure of the gravid uterus constantly increasing on the renal vessels tends to produce a congestion of the venous circulation of the kidneys, and hence the flow of albumen into the urine. Again, the nervous system of the pregnant woman is supersensitive, and its influence on the circulation of the blood, through the vasomotor nerves, must favor an hyperæmia of the kidneys. Now all of these conditions obviously render the pregnant woman susceptible to every exciting cause—such as sudden cold, obstructed action of the skin, and attacks of such acute diseases as are liable to induce acute parenchymatous nephritis.

If albuminuria exists previous to the time of conception, the conditions producing ordinary Bright's disease will then be regarded as its cause. Some authorities argue that eclampsia is a cause rather than a consequence of the albuminuria of pregnancy.

It may be well to briefly review the clinical history of this disease, and the following cases are typical of some of the forms which it assumes:

CASE I. Mrs. P. was pregnant for the second time, and maintained her usual good health till near the close of the seventh month, when she found her strength flagging a little, and noticed some puffness of the eyelids and face. At the latter part of the eighth month anasarca was marked, and my attention was called to her condition. I found her urine albuminous, but without any casts or blood-cells. During the

last month of pregnancy the anasarca was so extensive that she was obliged to recline much of the time. The urine was scanty, but never showed blood nor hyaline casts. Occasionally she had slight attacks of dizziness, and if she made special efforts to move quickly there was some dyspnœa. Her labor came on at the full term and was normal in every way. The anasarca passed off in about six days; and on the twentieth day after delivery no albumen was to be found in the urine. Her recovery was complete in four weeks, and she has enjoyed good health until the present, a period of more than ten years.

CASE II. Mrs. G. P. was in her second pregnancy. During the second month she had some nausea which soon subsided. During the fifth month she was not usually well, and at its close I was consulted. There was puffiness of the eyelids and face and the urine was slightly albuminous. At the middle of the sixth month the albumen was about one-sixth, and several hyaline casts were found; the urine was scanty and the specific gravity, 1014. At the beginning of the seventh month there was œdema of the ankles and anasarca with dyspnœa. The albumen measured nearly one-half. At the middle of the seventh month labor came on and she was delivered of a child in six hours, that survived some ten hours. Very few hyaline-casts, and no blood-cells were found in her case up to the time of her delivery.

During the first week after labor the urine was scanty; there was troublesome dyspnœa and the pulse was quick and feeble; her strength then began to rally, and her convalescence was slow but steady. In two weeks the anasarca had passed off, and in four weeks there was neither dyspnœa nor œdema of the ankles. No traces of the hyaline-casts were observed after the end of the fourth week, and but one before then, and no albumen after the eighth week. Six months have elapsed since her confinement and she is now in comparatively good health.

CASE III. Mrs. H., primipara, aged nineteen years; short, stout-built, very healthy from childhood; was seven months advanced in pregnancy when I first saw her. She said she had felt well till within two days; but about a week before she

perceived herself "bloating all over." She was suffering from headache and dizziness, and said she felt "very sleepy." The urine was scanty and heavily loaded with albumen. It was not tested microscopically. In about twenty-four hours after this convulsions ensued, and soon coma supervened. She was delivered with forceps of a dead fœtus; but in about forty hours after the convulsions appeared, death had ended the fearful scene.

CASE IV. Mrs. K., multipara, thirty-five years of age, had been pregnant eight and one-half months. She had been in feeble health for two years. I found her pale and feeble; considerable anasarca existed, and she was suffering extremely from dyspnœa; her urine was scanty and heavily loaded with albumen, with some hyaline-casts. Her history pointed to the existence of albuminuria at the time of conception, and she seemed to be on the verge of the grave. She was delivered some fifteen days prematurely, after a rapid and easy labor. The anasarca and œdema entirely subsided in about two months; very little albumen was to be found, and the hyaline-casts were absent. No effort was made to nurse the infant, and the breast gave but little trouble. In less than three months she attended somewhat to household affairs. She then removed from my neighborhood; but I have learned that her health was delicate for a time, when "Bright's disease came on," and after several months of suffering she died from its effects.

The indications for treatment will depend on the causes of the disease and the symptoms presenting at a given time. If debility and blood-impoverishment or perversion are prominent symptoms at any stage of the disease, and if it will be tolerated by the stomach, the following should be given: R.—Tinct. Ferri chloridi, ʒvi.; glycerini, ʒv.; salicini, ʒij.; Aquæ ad., ℥iv. M. ft. mist. Sig. A teaspoonful in a wine-glass of water an hour after meals.

The solution of sulphate of quinia in dose grs. ij.—grs. iij. may sometimes be substituted for the salicini.

If the skin be inactive the warm alkaline sponge-bath should be used: vapor and hot-air baths are also indicated in

these cases. The Turkish bath also has its important use in some of these cases. Jaborandi in small, continued doses, is often of immense importance in the condition under consideration, and seldom produces the prostration of the large but infrequent dose of that agent; sometimes, however, the larger doses will be required. When œdema of the lower extremities exists, or anasarca, great benefit has been found from the use of Martin's long, light, elastic bandage, by applying it from the foot to the body. It gives great support to the limb, while it excites a free exosmose of the the serum, and thereby invites thither the fluids from the superior portions of the body.

The following combination, which is original with Dr. H. I. Bowditch, of Boston, will be of great service in many cases of irritable heart and dyspnœa: R.—Digitalis, pulv., grs., x.; Colchici Rad., pulv., grs., xx.; sodæ bicarbonatis, grs., xl. M. Ft. pill No. xx. Sig. One three times a day.

The propriety of the inducing of premature labor in desperate cases where all other means have failed, if there is a reasonable certainty that the albuminuria did not exist previous to pregnancy, is worthy of consideration. When the risks are considered that are taken in abdominal surgery for the preservation of the life of woman, certainly it should not be sacrificed when threatened by the albuminuria of pregnancy, if it is probable that it can be saved, and only so saved by the induction of premature labor.

An important factor in the treatment of this disease is a proper attention to the diet of the patient, making it simple but nutritious to the fullest extent. Milk—some would say: skimmed milk—and the white of egg should be among the staple articles of food. So, too, the beef-juices and the games —if they are digested well—are to be fed with an unstinted hand. The malts, and particularly Maltine, serve an excellent purpose in the treatment of these cases. Fruits are not to be proscribed if desired and well tolerated by the stomach.

(D) OTOLOGY, OPHTHALMOLOGY AND LARYNGOLOGY.

HENRY K. STRATFORD, M. D., Chairman; JOHN L. FURBER, M. D., Acting Secretary.

OPENING ADDRESS.

By HENRY K. STRATFORD, M. D.

The courtesy, if not the over-confidence, of President Howe, has led him to form this Section with its present staff of officers, We, as his chosen lieutenants and associates, have no other duty in the matter than to do our part to justify his action. He is too able a man, too prominent in our ranks, too worthy a practitioner and instructor, for us to regard the task which he sets except as a tribute to our fidelity, and something which it is a matter alike of honor and pride to execute.

It has not been the practice for the men who assume to be *par excellence* "the scientific physicians," to acknowledge any merit to those not of their number. If we discover or invent a new method or improvement in surgery, any better form of practice, any better remedy or mode of pharmaceutic preparation, it is the old-time practice of Old-School Medicine, not yet reformed, to ignore and deny. If, however, it cannot be crushed out by this sitting down upon it, those men have no scruples of conscience at pretending to have made the discovery or improvement themselves, and in some mean way cast opprobrium upon the individuals who had anticipated them. It has been so in Electro-Therapeutics, in Materia Medica, and in matters of practice. A man as scholarly, as worthy in many respects as Oliver Wendell Holmes, has not been able, when writing about Eclectics, to be candid, or to speak quite the truth. We do well to bear this in mind and quietly to bide our time.

The field assigned to this Section has been one the literature of which is less abundant than that of other departments. The principal information has been garnered by specialists,

and their observations have received little attention from the great body of practitioners. Yet the importance of these topics cannot be questioned. The great number of our population suffering from partial deafness, and so to a very great degree shut out from the society of their fellow-beings, require the aid of science and art to afford them whatever aid is in our power. The varied disorders that induce difficulty of hearing should be catalogued, their pathology and treatment explained, and the ways by which to obviate their effects made known. Living as we do in a country where coryza is common, which so often degenerate into laryngeal inflammation and permanently affect the tympanic cavity, and where nervous impairment is too common, and sundry other complaints well known in surgical practice, we can perceive that otic pathology and therapeutics ought to be diligently studied.

The United States and Germany have produced most of the recent literature of Otology. The field is far from being circumscribed. The surgical operations upon the tympanic membrane, Eustachian tube, etc., are no insignificant matter. The views of surgeons in regard to them do not always agree, but are often totally adverse to each other. Some never incise the membrane; some cut only for the removal of pus; others do it, also, to evacuate superfluous mucus from the tympanic cavity; others, more daring, open the tympanum for the remedying of the consequences of pestiferous catarrh, or of inflammations, such as adhesions of the membranes and tension of the tensor tympani, etc. These facts show us that we ought to understand the subject very thoroughly, and that we have enough to do if we would master it.

Morbid growths within the ear will be another important topic. The cancerous disorders, polypus, bony enlargements, ulcerations, and the like, are met with frequently enough to create great anxiety on the part of the medical attendant. The causes of such affections should be explained and proper treatment suggested.

The various causes of deafness ought to receive attention. A considerable percentage of children are born mutes, unable to learn to speak because of deafness. Articulate speech is the

proof of our superiority to brutes as well as expressive of our thoughts; and the privation is most terrible from its fearful dwarfing of the human faculties, or rather limiting of their power to develop. Many are deaf whose external and middle ears are apparently healthy, the nerves which enable hearing being the affected part. The curious fact that many have alternate seasons, and even moments, of deafness and of being able to hear, should be considered. The diseases which produce deafness are known to be those of the parotid glands, syphilis, diphtheria, scarlatina, variola, and others which manifest themselves in the throat. Some medicines—quinine notoriously—have a similar liability. Deterioration of the nervous system may impair the hearing. It is my desire that this Section will be able, by its discussions of the papers which are presented, to make valuable additions to what is known on the subject.

I may dwell, very properly, with greater emphasis upon *Ophthalmic* Science. Our eyes and how to preserve them, constitute a theme of vital importance to every one. The value of life itself, certainly so far as our fellow-beings are concerned, is almost totally destroyed by the privation of sight. The life of the blind is unenviable, however we may regard it, and defective vision is a misfortune for which money cannot compensate. As our civilisation progresses, this becomes more and more the fact. We learn and hold communication with others by reading rather than by articulate speech; and whatever interrupts or interferes with this mode is, in many respects, as unfortunate as muteism itself. The blind are shut away from the world about us; those whose vision is defective or impaired, are deprived of many advantages.

The diseases of the eye are numerous, and require unusual skill for successful treatment. As the anatomy of the various coatings and membranes are understood, surgery is becoming bolder to obviate all obstacles which their disorders interpose to vision. The removal of cataracts is an operation comparatively old. Iridectomy, the operation for strabismus, and others that may be named, pertain to a more recent period. It is becoming the judgment of medical instructors that a

student should acquire expertness in this department as well as the more common ones of operative surgery. I am of that opinion myself.

The physiology of the eye also should be considered, with reference to preserving the function of sight. The near-sightedness which is so frequently contracted in our school-rooms, is a dishonorable characteristic of our educational system. It is no credit to any people that its adolescent members are compelled to wear spectacles. Imperfect light, small type in books and newspapers, and neglect of the eyes, are causes of ophthalmic difficulty which deserve to be classed as criminal.

It is familiar to every intelligent pathologist that every cause that disturbs or enfeebles the nervous system, is liable to be prejudicial to the eye-sight. Sexual excesses, the use of tobacco, narcotic and alcoholic stimulants, and unwholesome habits generally, are among the causes of ophthalmic disorder. The redness of eyes incident to excess in drink, is recorded in Holy Writ. The universality of smoking and the wearing of spectacles in Germany have long been noticed. Heredity has also its share of influence; the sins of the fathers and remote ancestors are visited on their descendants in nervous defect and feeble organs of special sense. Mechanical causes are also numerous; and it is in our province to elucidate them.

I trust that something will be brought out in regard to the injuries to which the eyes of the young are subject. The remedies which are advertised and in the market, which are worse than useless, ought to be exposed. The disorders commonly met with, however, demand more explicit attention.

Myopia, or short-sightedness, is first to be mentioned. The ophthalmoscope informs us that this is the result of an elongation of the globe backward in the socket, so that it becomes ovoid, followed by other morbid changes; the giving way of the retina, optic nerve, choroid and sclera—forming the bulging known as staphyloma. Astigmatism, the paralysis that occurs after diphtheria, scarlatina and measles, weakness of the recti muscles, are also important.

The invention of the ophthalmoscope, by Prof. Helmholtz of Heidelberg, enables us to explore the interior of the eye and detect the slightest variations from a healthy condition. Diseases can be studied more perfectly than those of other parts of the body. Imperfect development of the retina and choroid, a commencing cataract, the opacity of the cornea from pernicious ulceration, are thus brought to knowledge often in season to enable us to take advantage of the fact.

Ophthalmic surgery is rendered more certain. Diseases of the eyelids, obstruction of the lachrymal ducts, strabismus, inflammation of every form, disorders of the conjunctiva, granulations, ulceration of the cornea, glaucoma, amaurosis, cataract, are the principal affections to come within our province. It will be seen that our field, so far from being insignificant and unimportant enough to extenuate neglect, is among the most vitally important. The eyes, more than other organs of special sense, associate us with our fellow-beings and make us citizens of the universe. When we know more of their anatomy, we shall perceive that other nervous diseases are induced by their disorders.

Laryngology is, perhaps, a more familiar topic. The dis eases of the throat, which have become as household words in these later years, have elicited much anxiety on the part of the medical attendant. There is a disposition at the present time to employ local treatment, and the surgical devices for the purpose are ingenious. Signor Garcia has the reputation of having perfected the invention of the laryngoscope, which enables the exploration of that part of the human structure; and now we have, as the result, laryngotomy, as a distinct branch of physiological research. Dr. George Johnson declares: "The result of the new light thrown upon this region by the throat-mirror has been that within the last twenty years our knowledge of laryngeal diseases, including accuracy of diagnosis, with certain and successful treatment, has made greater progress than that of any other department of medicine or surgery during the same period of time." In making this statement, he adds, "I am not unmindful of the immense advance which has been made in the diagnosis and

treatment of eye-diseases since the genius of Helmholtz conferred upon mankind the inestimable gift of the ophthalmoscope." As the use of that instrument has thrown new light upon numerous remote diseases, especially those of the nervous system, the relation of which to the diseases of the eyes had not even been suspected, so the laryngoscope has added to the facility of diagnosis, enabled us to learn better methods of treatment and attempt surgical operations for the removal of morbid growths of foreign bodies, which were before virtually out of our power.

Dr. Johnson thus eloquently compares the benefits of the two instruments: "By the inspection respectively of the interior of the eye and of the larynx, valuable light is often thrown upon the diseases of remote but physiologically-correlated organs. If, for example, the ophthalmoscopist sees in the eye a retinitis significant of disease, a neuritis involving cerebral tumor, or an embolism, the result of valvular disease of the heart, so in like manner the laryngologist is often led by the observation of the paralytic or spasmodic condition of one or more laryngeal muscles, to the diagnosis of a general neurotic condition to which the term hysteria is often applied, or of a special local disease in the nervous centre, cervical or intra-thoracic, pressing on the pneumogastric nerve or its branches.

We thus perceive the unity of the whole structure. None of our organs exist as apart from the others. If one suffers, all suffer with it. We learn that no one can be successful as a specialist except he knows well the human body, its anatomy and physiology in their entirety.

It is not necessary for me to prosecute these remarks any further; and I shall await the papers and discussions which are assigned to this section, with the deepest interest. We do not aim so much to develop what is not yet known, as to assimilate the knowledge within our reach. Nevertheless, we welcome the explorer and the discovery. Our Association comprises the principal introducers of new methods and new remedies, in the whole civilised world. It is our place to be in front—the pioneers; and we are often treated like pioneers

by the men who seek to take advantage of our labors. The cross, the stake, the rack, and medical proscription, have been the reward bestowed on every pioneer of thought who did benefit to mankind. The men who are praised and lauded are seldom the real benefactors. The prophets are slain first, and then subscriptions are started by the children of the murderers, to build monuments to their memory. Those who minister to the follies and vices of mankind are most admired, even in scientific circles; they make the most money.

Let us do our work here with earnestness and thoroughly. We are here to teach and learn from each other. We are organised on the platform of helping one another. We meet as friends and not as rivals and competitors. We have not come for sport and amusement, hardly even for recreation, but for sober work. If we carry away more knowledge than we brought, we have done well to be together. It is the way to do. We are made better, more skillful, more intelligent for our assembling and conferring together; and we are organised as an Association, as well as in a section by ourselves, in order that we can accomplish this the more effectively.

With these remarks, we will now proceed to business.

THE EUSTACHIAN TUBE.

ITS ASSOCIATED PATHOLOGICAL AND ETIOLOGICAL RELATIONS TO DISEASES OF THE EAR AND NASO-PHARYNX.

By LEMON T. BEAM, M. D., Johnstown, Pa.

The histology of the middle and internal ear is a terror to the general practitioner, and he has been disposed to excuse himself from the study of it because of the conjectural nature of much that has been written. With relation to the internal ear, Schwartz says: "The pathological histology of the labyrinth of the ear is in the first stage of its development, and needs the services of an extraordinary anatomist, who must work deeply and thoroughly in this most difficult field for

years to bring forth any results." Thanks to German students, the anatomy is clear, and, if we accept the theory of Helmholtz, the physiology is approximately so.

Prof. Burnett* has done the English-speaking student admirable service. He has given exact information in this difficult field of research in a clear manner, condensing the mass of material, and making deductions which seem free from bias.

STRUCTURE OF THE EAR.

In order to treat the subject clearly, I shall first revert briefly to the anatomy and physiology of the ear, Eustachian tube and naso-pharyngeal region. I will endeavor to direct attention to such points as will recall to the student those which may have been dropped out of memory, but which will bear repeating with profit. Let us appreciate, in all its bearings in this study "that anatomy is the foundation of all medical knowledge."

The middle ear or tympanum is an irregular, narrow cavity, situated within the petrous bone, between the external auditory canal and the outer wall of the labyrinth, having an oblique direction inward and outward, wedge-shaped, being narrow below and in front, and broad above and behind, its longest diameter from before backward being from six to nine lines, its diameter vertically about three lines, and its transverse diameter about two or three lines. Its cavity presents six faces or sides: 1. The superior wall, which is formed by a layer of bone, separating this cavity from that of the cerebrum, and through which bone-diseases of the tympanum advance, when they affect the brain. 2. The inferior wall, which presents a fissure or slit, about a line in length, called the Gasserian fissure. 3. The external wall, formed principally by the membrana tympani. 4. The internal wall, which has a vertical direction, and looks outwardly; it presents a uniform opening, which leads from the tympanum into the vestibule, called *fenestra ovalis*. Above this fenestra is the aqueduct of Fallopius, which gives passage to the facial portion

* *The Ear: Its Anatomy, Physiology and Diseases.* By CHARLES H. BURNETT, A. M., M. D. *Aural Surgeon*, Philadelphia; Henry C. Lee, 1877.

of the seventh pair of nerves. 5. The anterior wall is wider above than below, and presents the internal tympanic orifice of the Eustachian tube. 6. The posterior wall is also wider above than below, and presents an opening of communication with the mastoid cells. At the upper part of the posterior wall is a large, irregular sinus, and sometimes several small apertures, which lead into canals which communicate with the interior of the mastoid process. This process contains in its interior an infinite number of compartments, which are termed the mastoid cells, and which are covered by a very delicate mucous membrane continuous with that lining the cavity of the tympanum. It will, therefore, be readily inferred that as these cells communicate freely with the tympanic cavity, inflammation attacking this cavity may extend to or exert an unfavorable influence upon them. The mastoid cells vary much in size and depth in different persons. In the early years of childhood the only representation of the mastoid cells is that horizontal position lying immediately adjacent to the tympanic cavity. It is well to remember this, for it is easy to be seen that diseases occurring in early childhood extend in a direction entirely different from those in later years. As the cells increase in size and number, with increasing years, they extend downward and backward into the region of the cerebellum and lateral sinuses. Thus it is that caries, phlebitis and abscesses are found in this region, and present an entirely different train of symptoms to those occurring in childhood. This is a very important point in diagnosis and treatment.

The tympanic cavity of the ear, from the membrana tympani to the fenestra ovalis, is traversed by a chain of movable minute bones (ossicles of the tympanum), which articulate with each other by means of a little synovial and ligamentous apparatus.

The *membrana tympani*, or drum-membrane, separates the inner extremity of the external auditory canal from the cavity of the tympanum; it is a dry, thin, semi-transparent membrane, irregularly oval; and varies from nearly circular to elliptical, according to the age of the person. It is rather broader above

than below, and directed from above very obliquely downward and inward; its degree of obliquity also varies with age, and it assumes a more horizontal direction with very young persons. Its long or obliquely-vertical diameter is about two-fifths of an inch; its circumference is thick, firm, somewhat denser and whiter than the rest of the membrane, and is inserted in a well-marked groove upon an elevated ridge at the tympanal margin of the bony meatus, in a manner somewhat resembling the setting of a crystal in the besil of a watch. Internally, where it forms a point of attachment with the chain of ossicles, the membrana tympana is convex; externally, where it terminates the external auditory canal, it is concave. It is composed of four extremely thin layers, and is highly sensitive. Its office is to receive and convey sounds to the ossicles, and thence to the labyrinth; and as a guard to the delicate structures of the middle ear; and to modify the influence of loud sounds; and to render the ear more susceptible to the influence of delicate ones.

The tympanal walls being everywhere invested by a membrane which possesses the double character of a mucous and periosteal membrane, the inflammatory process (as in catarrh of the middle ear, which gives rise, in its congestive or forming stage, to most of the earaches experienced in childhood) is attended by an abundant secretion and is characterised by its extreme painfulness. The sensitiveness of this structure is very great. That it is wonderfully provided with sensory nerves will be observed by the following summary of those which compose the tympanic plexus, and its sympathetic relations are shown in that it (the plexus) derives supplies from sources most extensive: thus by means of branches from the otic ganglion the inferior maxillary nerve is brought into intimate relations with it, and the petrosal ganglion of the glosso-pharyngeal nerve supplies the tympanic branch, or Jacobson's nerve, which constitutes a large portion of this anastomosis. The carotid plexus of the sympathetic sends a branch to the glosso-pharyngeal and thus establishes a communication between the ear and the superior cervical ganglion of the sympathetic nerve. Through Meckel's

ganglion by means of the Vidian nerve the superior maxillary of the fifth pair of nerves also is connected with the tympanic system. Besides these there are other connections. This structure is also richly supplied with blood-vessels. In describing these parts Burnett calls attention to the importance of bearing "these relations in mind when considering certain neuralgias in and about the ear, which might otherwise be puzzling." In a very large number of diseases of the ear the causes are to be sought elsewhere than in the hearing organ itself, since they will depend, for the most part, on the nervous sympathy; the most prominent of these causes in children, are dentition, dental caries and "colds" in the head.

Hence, in all affections of this organ, where no sufficient local influences can be found, it is well to cast about and endeavor to discover any sources of reflex irritation, since treatment directed to the remote origin of the difficulty will be found the most effective; thus a remedy applied to a carious tooth may cure an otalgia, a reversal of the practice of the ancients, who made application to the ear for the relief of toothache.

The internal ear, or labyrinth, is situated in the petrous portion of the temporal bone, between the tympanic cavity and the internal auditory canal; it is very complicated in its form; it commences at the fenestra ovalis and consists of the three following parts: 1. The vestibule. 2. The semi-circular canals. 3. The cochlea.* A very fine fibro-serous membrane lines all the cavities of the labyrinth, the internal surface which secretes the liquor Cotunni, and which liquor exactly fills all the labyrinthian cavities in which we find neither air nor emptiness. The internal ear, then, consists of a chamber with two windows and lateral galleries, enclosed in walls of solid bone; within these walls are included sacs filled with fluid contents, these sacs floating in fluids which completely fill the chambers and galleries; within these sacs resting upon the inner lining as a base are the terminal filaments of the

* See *Chronic Diseases*, by Prof. JOHN KING, page 1193, for a very excellent and minute description of the labyrinth.

auditory nerve. Immediately in relation with these nerve-filaments are arterial and nervous radicles, upon which the entire structure depends for nutrition. Notice this summary: bony walls enclosing fluid contents in which are suspended membranous sacs containing fluids in which float fine nerve-filaments; all these so delicately adjusted that any motion in any part of the mechanism causes like motion throughout the whole.

The function of this mechanism is simple; any application of force which acts upon the closed windows of this bony chamber causes waves through the fluids. In the normal ear the tension of these fluids is uniform, and the terminal nerve-filaments are adjusted or tuned to correspond to this uniform tension. It will, therefore, be readily seen that any factor that comes in to change the normal condition will cause a change of tension, and result in abnormal phenomena. It is not necessary to enter further into the anatomy and physiology of the internal ear. I would simply say: sound implies two things; waves or undulations, and a nerve of hearing. Hearing is the mental act consequent upon perception of sound-waves by the labyrinth, and their conduction to the brain by the auditory nerve. The theory which is generally accepted by physiologists in explanation of this point is the one given by Prof. Helmholtz, and called in honor of that distinguished physicist, "the Helmholtz theory of hearing."*

The Eustachian tube, the pivotal point of this study, is a somewhat trumpet-shaped canal from an inch and a half to two inches in length, through which a communication is kept up between the tympanum and the cavity of the fauces; its small extremity, or intratympanic orifice opens into the cavity of the tympanum, from which it proceeds, gradually increasing in diameter, obliquely downward, inward and forward to the superior and lateral part of the pharynx. Its faucial orifice is fibro-cartilaginous, larger than at any other part of the canal, bell- or funnel-shaped, and will admit the introduction of a medium-sized bougie, while a very fine bristle

*The essential points of Helmholtz' theory will be found in an abstract by A. H. BUCK, M. D., in his treatise on the EAR, 1880, p. 12.

can hardly pass through its bony portion, which is about a quarter of a line in diameter. The tube consists of an osseous and a fibro-cartilaginous portion.

The osseous portion opens into the tympanic cavity by an orifice which is situated below the processus cochleariformis. This portion is slightly compressed from without inward, is from six to eight lines in length, conical; the wide extremity of the cone corresponding to the tympanum; the narrow extremity opening into the fibro-cartilaginous portion, at its origin, and which orifice is quite round, having a diameter of about a quarter of a line. The internal walls of the osseous portion are lined by an extremely thin fibro-mucous membrane, very similar to that lining the tympanic cavity.

The fibro-cartilaginous portion commences at its attachment to the jagged margin at the extremity of the osseous portion, which is usually the narrowest part of the tube, barely large enough, as remarked, to admit a good-sized bristle. From this point it proceeds downward and inward, gradually dilating as it advances, forming a second elliptical cone, resembling a straight trumpet; the funnel-shaped extremity of which opens behind the posterior nares, where it presents a thick, round, projecting lip or margin. The fibro-cartilaginous portion of the tube is from an inch to an inch and a quarter in length; the trumpet or funnel-shaped faucial orifice of the tube is nearly half an inch long; and its lower margin is slightly below the floor of the posterior nares; this orifice is supposed to be always closed in a state of rest, and to be opened by the tensor and levator palati during the act of swallowing. These two muscles form, as it were, a kind of sphincter around the faucial orifice of the Eustachian tube. A mucous membrane lines the interior of the whole tube, which is very vascular, and which is provided with vibratile cilia; it also contains muciparous follicles, and it is to inflammation of them with hypertrophy, in obstinate catarrh, that thickening, strictures, and other morbid changes of this membrane are due.

The many-sided question concerning the uses of the Eustachian tube in hearing has been answered by both physiologists and aurists of the present day, in very much the same

manner. To the actions attributed to this tube, which are in the main, the removal of the air in the cavity of the tympanum, and the evacuation of the secretions of this cavity, Fournie* nows adds: that in consequence of its presence, the resonance of intense sounds in the cavity of the tympanum is prevented.

Contrary to the general opinion, Fournie endeavors to show that the tube is a constantly-patulous canal, and that the muscles inserted into it, far from being dilators, are constrictors, which close the tube in certain actions, such as that of speaking, masticating and swallowing. According to Fournie, the air-communication between the nasal portion of the pharynx and the cavity of the tympanum is constant; but inasmuch as it is unlikely that air could easily rush *into* a narrow canal, which is open at but one end, there are throughout the whole extent of the tube strong muscular fibres which assist and favor the forward progress of the air by means of the intermittent closure of the canal. The renewal of the air in the cavity of the tympanum would thereby be produced by a species of breathing, by which the constrictor muscles take upon themselves the action of expiratory muscles, whilst the inherent elasticity of the cartilage of the tube supplies the place of inspiratory muscles. The presence of air, having the same density and moisture on both sides of the membrana tympani, is essential to the proper perception of sound, as that membrane thus vibrates freely and accurately records the number of vibrations peculiar to each individual note. The closure of the Eustachian tube, prevents the entrance of the air to the middle ear from the mouth; hence the abnormalities in hearing perceived when a catarrhal inflammation creates a tumefaction of its lining membrane.

When we consider, as to size and physical structure, the comparative insignificance of the Eustachian tube, we are amazed when we come to realise its pathological and etiological relations and conditions. The discriminating aurist frequently sees cases in which, although other parts of the organ

*Dr. Fournie, *Gazette des Hosp.*, March 11, 1880.

of hearing may be involved, the condition of the Eustachian tube constitutes the most salient feature of the pathological picture presented. For example, the tube may be found impervious to air from stricture, or it may be widely patent—serious consequences of either condition may ensue. Again, paralysis or spasmodic contractions may take place in the muscles which separate the inner from the outer wall of the pharyngeal portion of the Eustachian tube. Destructive processes may terminate in the binding together of these walls at the pharyngeal orifice. The effect of a permanent closure of this tube is to impair the function of hearing, and finally, often, to destroy it altogether.

The pharyngo-nasal space is continuous anteriorly with the nasal cavity, and as has been seen, laterally communicates by means of the Eustachian tube with the middle ear. The pharyngeal orifice of the tube lies on the level of the posterior nares, and is about one-fifth of an inch below the base of the skull, and about three inches and one-fifth from the anterior nares. The aperture is about two-fifths of an inch in its vertical, and about one-fifth in its transverse, diameter. That portion of it which appears in the pharynx is covered by mucous membrane, and is seen as a somewhat rounded elevation, with its convexity turned upward and backward. From its upward extremity a fold of mucous membrane extends to the border of the posterior nares, and from its posterior extremity another fold extends to the hinder surface of the velum pendulum palati. Between the orifice of the Eustachian tube and the posterior wall of the pharynx is a somewhat triangular-shaped depression, covered with numerous glands, which is known as Rosenmüller's fossa. The upper wall or roof of the pharyngo-nasal space, lies immediately below the skull, is quadrilateral, with rounded edges. It is concave in an antero-posterior direction, directly continuous with its posterior wall, and in form, may not inaptly be compared to the hood of a carriage. The upper wall or roof, already described, is rich in gland-tissue, and shows numerous depressions and crypts. In some subjects there is a cavity of considerable depth situated posteriorly and in the

centre of the roof, in which are found the openings of numerous follicles. This collection of follicles has been described by Luschka and named the "pharyngeal tonsil," in contradistinction to the analogous glands in the fauces. According to Tortual there is a deepish sinus at the anterior border of the roof, which he calls the sinus faucium superior; it extends forward from the semilunar fold of mucous membrane at the border of the posterior nares, externally and below the upper edge of the orifice of the Eustachian tube. The lateral walls of this cavity are limited superiorly by the openings of the Eustachian tubes and the recessus pharyngeus, or fossa of Rosenmüller.

In the study of pathological conditions of the organ of audition, the etiological relation to disease of the throat being of so intimate a character, it is to be regretted that an anatomical distinction, or a separation between the cavity of the ear and that portion known as the naso-pharynx, should at all be attempted by anatomists. This portion, the naso-pharynx, is no less a part of the ear pathologically than is the middle ear itself; seventy-five per cent. (Heuson) to ninety per cent. (Mittendorf) of ear-diseases finding their cause in disease of the pharynx, of which the nasal part is here important.

It has been well said that the naso-pharynx, pathologically and therapeutically, is of greater importance than the drum-cavity itself to the organ of hearing as a whole. Why? With a closure of the Eustachian tube at its pharyngeal orifice, referable to disease of this part, we have a deafness that yields only to the reëstablishment of the patency of these openings. Again, the middle ear may be deprived of one of its walls, the tympanum lose its contained ossicles, even suppurate for a long time, and yet retain a certain and valuable degree of its functions. Of all the secreting surfaces of the cavities of the body the naso-pharynx is the one most frequently found to be the seat of disease, the inflammatory action passing directly through the tube and involving the tympanic cavity; hence the etiological origin of the seventy-five to ninety per cent. of ear-diseases.

There is a voluminous otological literature with reference to methods of examination, descriptive of apparatuses, instruments and operations, but with a tendency to confuse and embarrass the general practitioner by their multiplicity and complexity. The steps necessary to washing out the internal and external anditory tubes, perforation of the membrana tympani, mastoid cells and of catheterising the Eustachian tube can all easily be ascertained by reference to any work on aural surgery. Aural therapeutics and surgical procedures do not fall within the scope of this report. Yet I cannot refrain just here from what may be considered a digression in detailing a practical point with reference to the importance of the simple *digital examination.*

It is to present the claim for the support of a method that is rapid, easy of execution, and one that does not necessitate the use of scientific instruments, that I do this. The method to be proposed has no element of novelty, introduces nothing new to overburden the methods already in use, being one of simple digital examination, and is only going a step further in parts to be examined than the region so frequently explored digitally by dentists. It is to be regretted that it is not employed in routine-practice as an aid to diagnosis, since in diseases of the naso-pharyngeal region, it seldom fails to provide for the most serious emergencies of general practice. I consider this method entitled to higher rank than the use of the indirect method by the rhinoscope, although this latter is employed in routine-practice, not only in the office of the aural specialist, but in aural hospital clinical service. To the practitioner then I would commend this method as it does not necessitate a loss of time and the so-called scientific use of paraphernalia.

The method by digital examination consists in passing the index finger of the right hand, protected by the silver ring, when the right tube or vault of the naso-pharynx is to be examined, into the mouth, up and behind the soft palate, the operator standing upon the right side of the patient. Examination of the left side necessitates the order being reversed. The time of the examination varies from half a minute to

three minutes, and disease of any of the structures that can be examined is immediately determined. This method can be used in cases where, by complication, the use of the rhinoscopic mirror is either unsatisfactory or impossible.

Dr. Whittaker,* speaking of diagnosis in adenoid growth of the pharynx, says: "The rhinoscope was next to useless. The diagnosis," he further remarked, "can be made best of all by the finger which was to be carried up behind the palate. Even an inconsiderable increase in the amount of adenoid tissue might be recognised in this way." In the exploration of the naso-pharynx with the finger, the sensation, in a well marked case of adenoid vegetations, to the finger has been well described as that of a bunch of worms. If any growths be present, the contact of the finger usually causes them to bleed. Having introduced the finger in the manner before described, and which manœuvre must be rapidly and gently executed, a few lateral movements will then give a very fair idea of the state of the walls of that cavity, and of the nature, size and situation of growths which may be present. In children and refractory adults it is well to guard the first phalanx of the forefinger with a ring, (an India-rubber ring can be used in the place of the regulation silver ring), and the finger may with advantage be lubricated with cosmoline or a mixture of glycerine and water.

I take special pleasure in calling attention to this much-neglected method of examination. I would have every member of our National Association possess such an intimate knowledge of the anatomy and physiology of the parts under consideration, and his or her sense of touch educated to a degree of açuteness which but few of our aural specialists can justly claim for themselves. I would hope to excite an interest not alone in otological researches, but make clear the proposition that dry facts are not deficient in interest, and that anatomy is not alone a "mere preparatory drill to the practical branches," but a source of ever varying utility in all the walks of professional life.

* In the course of a discussion on a paper on "Adenoid Vegetations in the Vault of the Pharynx," before the Cincinnati Academy of Medicine, April 5th, 1880. See. *Lancet and Clinic*, Vol. 4, p. 357.

The pharyngeal orifice of the Eustachian tube and fossa Rosenmüller lying immediately posterior, are structures which maintain very important etiological and pathological relations to the middle ear, and which can be directly examined by the digital method. The cavity containing these anatomical structures admits of inspection and examination by methods direct; especially when the patient has a large mouth and wide faucial opening, which is not at all infrequent; then by rotating the inferior maxilla to the side opposite to the orifice of the tube to be examined, at the same time depressing the angle of the mouth, the orifice of the opposite Eustachian tube often lies in a direct line and can easily be seen, together with the fossa posterior to it. This procedure is aptly shown in the work of Prof. J. Solis Cohen, a case of cleft palate affording the extensive view there presented.

By digital examination I can immediately determine the normal or pathological condition of parts within reach, namely: the pharyngeal orifice of the Eustachian tube, the fossa posterior known as that of Rosenmüller's, Luschka's tonsil occupying a central position in the posterior wall of the pharynx and terminating laterally in this fossa, the posterior nares immediately in front; and here by this method of examination I am able to diagnosticate the existence of polypi and hypertrophy of the membranous covering of the inferior turbinated bones. A most important point gained by the method is the direction of the Eustachian tube at its pharyngeal extremity, and the existence of delicate contracting bands in the fossa of Rosenmüller. Whenever you find it difficult, by the ordinary method, to pass your Eustachian catheter, you should immediately make a digital examination, and you will find many times the difficulty lying in the misdirected orifice, this being drawn backward by contraction of bands or by constriction of the membrane itself lining the fossa posterior to the orifice, as is frequent in the condition known as the *pharyngitis sicca.* Thus by your finger passed up and behind the soft palate, frequently you can succeed in grinding the covered end of your Eustachian catheter into an otherwise practically closed tube; if necessary you can rup-

ture the bands with your finger, introduce the catheter, inflate the ear by the bag, and thus sufficiently increase the hearing to warrant the successful treatment of a case which you could not have otherwise undertaken. Cohen and Mackenzie mention the existence of these bands, but they are more numerous and perplexing than the writers would lead the inexperienced operator to suppose.

It is not too much to predict that this method of examination will yet become one of routine-practice in diagnosis of disease in these parts, and that the close aural relation of the naso-pharynx will become a more generally recognised element among the profession in the study of the pathology and therapeutics of ear-disease.

But I must recur to the further consideration of the etiological and pathological relations of the Eustachian tube. The experienced aurist can often predicate the existence of disease in the naso-pharyngeal region as the patient enters the consulting room, with mouth open, dull expression, thick voice and thick hearing, since interference with the sense of hearing —in some cases amounting to almost complete deafness—is a frequent concomitant of its many and varied pathological conditions. Chassaignac, at an early period, recognised the fact that compression of the Eustachian tube by hypertrophy of the tonsils, played the principal part in the production of "throat-deafness;" and the observations of Harvey at a later period developed the fact that as the tonsil enlarged by disease the Eustachian aperture becomes more patent than in the normal state. Hence this form of cophosis was attributed to chronic swelling and congestion of the mucous membrane of the tube, and more recent researches by Michel have shown that one of its chief causes is pressure of Luschka's tonsil on the posterior lip of the Eustachian orifice. In almost all severe attacks of quinsy the hearing is affected, and occasionally the extension of the disease up the tube gives rise to inflammation of the middle ear.

In the most pronounced cases of granular pharyngitis, as the disease impinges on the naso-pharyngeal space, impair-

ment of the sense of hearing, as a consequence, will be noticed in proportion as the orifice of the Eustachian tube, or its lining membrane participate in the morbid process.

Tinnitus aurium results principally from obstruction of the tube, and extension of the morbid condition to the middle ear, producing structural changes in its lining membrane; these changes causing abnormal pressure at the fenestra ovalis, or fenestra rotunda. In catarrhal cases, either acute, subacute, or chronic, engorgement of the mucous membrane will act directly upon the fluids of the labyrinth by way of the foramen rotundum, or by forcing the stapes at the foramen ovale. In subacute and chronic catarrh the subjective sounds are continuous; musical tones of a high pitch; but in the acute form there is added the pulsations of the arteries, synchronous with the action of the heart. In the proliferous form of catarrh, when the mucous membrane becomes atrophied and tense, the variety of subjective tones is unbounded. All these effects find reasonable causes in structural changes originating primarily at the naso-pharyngeal orifice of the Eustachian tube.

Temporary closures of the tube are often the result of ordinary influenza. Scarlet fever, diphtheria, measles, small-pox and similar diseases produce this condition and leave the patient more or less deaf in one or both ears. The closure may be the result merely of the swelling of the lining membrane, or it may be caused by the formation of a mucous plug, which forms by the inspissation of this fluid in the tube. The opening of the tube is often indicated to the patient by a sudden snap in the ear, with an equally sudden increase in the acuteness of hearing. The swelling subsides and the inspissated mucus is thrown out, thus leaving the passage open.

Permanent closures are the results of the same causes, and particularly of chronic inflammation which produces a permanent thickening of the lining membrane, a plug which becomes semi-organised and fixed, or one or more strictures, which close the passage. Great care should be observed after scarlet fever, diphtheria, acute catarrhs, etc., to have the passage cleared out; otherwise a more permanent closure results, which will at first be followed by partial, and finally in many

cases, by complete deafness. It would appear that the natural outlet of the tympanum being closed, disease sooner or later sets in and perforates the membrana tympani, or involves other portions of the internal ear. According to Dr. Byran,* "these closures of the Eustachian tubes are more certainly followed by lesions inducing entire cophosis than affections of the external meatus or tympanum itself."

The consequences indicated are the more likely to follow, inasmuch as the general practitioner frequently fails to consider the gravity of the symptoms attending such closures, and as the tube is somewhat difficult to explore, and also as one tube may be closed for a long time in cases where a competent aurist is not consulted, before the patient or friends may detect it. Frequently very grave pathological conditions are passed over as being a simple "earache." Furthermore, as neither a discharge, deafness, nor any other serious result characterises very many of the earaches of young children, the parents or friends are very likely to draw the conclusion that *all* earaches are equally harmless, and that they may be allowed to run on for days or even weeks without any further attention than that ordinarily prescribed by the physician, viz.: a hot poultice, or a few drops of sweet oil and laudanum.

These remarks I concede are again of the nature of a digression, but I am anxious before closing this paper to call attention to the proposition that while we may not all be specialists, yet that special knowledge should take the place of guesswork in the management of aural and allied affections, and the present opportunity seems to be a good one for the purpose. As before stated, there is a certain foundation for the belief that "earaches" are harmless; but this notion could scarcely have become so deeply rooted in the public mind, unless physicians themselves had in a measure confirmed it. While the non-professional person may be excused for such a belief, the physician should not thus err in judgment. He should know that earache is a prominent symptom of some very serious disorders of the ear; such, for instance, as acute catarrh of the middle ear. He should know that the tendency in many cases of "earache" is right on to the more destructive, if less painful, form of suppurative inflammation.

* *Treatise on the Ear*, p. 36.

Dr. Albert H. Buck* says: "I have repeatedly been called to see children who have been suffering from pain in the ear several days, and in whom the inflammation of the middle ear and adjacent parts had already assumed serious proportions; and yet the thought of sending for a physician had apparently not entered the minds of the parents until after the inflammation had approached very near to the limit beyond which surgical interference is not competent to control the disease. I have often, in these cases, asked the parents the question: 'Why have you waited for so long a time before sending for a physician?' The majority have replied: 'We thought it was simply an earache, and that it would pass off of itself?' Others have said that in the previous earaches of their children, the physician who had been called simply prescribed the application of a hot poultice, or the instillation of warm sweet oil to which a few drops of laudanum were to be added; and that they naturally drew the inference that nothing further could be done in such cases." It would seem natural for this celebrated instructor in Otology to follow up this statement, as he has, with the remark, that, "in every case of earache, which does not yield readily to local applications of heat, a physician should be sent for in order that the underlying pathological condition may be ascertained and the proper remedy applied." "Unfortunately for the public," he further remarks, "very few physicians in the country districts," and comparatively but very few in the town and city districts, should have been added, "are provided with the proper instruments, or possess sufficient technical knowledge, for the satisfactory accomplishment of this object."

When one looks at the practice of medicine alone, he is not at all surprised to find constant improvements being made in the treatment of disease; also in Materia Medica, where new, direct and pleasanter remedies are constantly being discovered, and their usefulness developed. So also in Surgery, wherein new and better styles of operation are invented, and various modifications in regard to instruments, manipulations and mechanical contrivances. But, when we come to

*See *Diagnosis and Treatment of Ear-Diseases*, p. 156, 1880.

otology, many are so prone to regard that as the field of the specialist that they think it either beyond their ken, or that no further improvement can come within its jurisdiction ; and hence after treating, it may be their first case of earache, successfully, they rarely if ever read up on that branch of medicine during the rest of their natural lives. This should not be the case, especially with the live, wide-awake Eclectic physician. Otology presents a wide and interesting field for continuous and unremitting study. Not that I consider the Eclectic, behind other schools in the profession in this direction, but to prove that otology does not receive its appropriate attention, I might mention the fact that, according to the published transactions of this society, it has generally received the go-by, and is very seldom reported upon.

In conclusion, the great importance of a thorough knowledge of this somewhat intricate subject to every medical man is so obvious as to require no excuse for the time I have devoted to it. The rehearsal of acknowledged facts sufficiently recalls to the mind the pathological importance of the Eustachian tube and naso-pharynx, to cause these structures to be considered, for other than anatomical reasons, a part of the ear. May we not conclude, that for therapeutical purposes, also, they are the most important part of the ear? Hardly a case of what would seem, at first sight, to be a simple catarrh of the naso-pharynx, can pass through our hands, but that if we watch carefully, and keep our etiological and pathological eyes open we may ascertain some new fact, which in the future might make us more welcome to our patients and useful in our calling.

PERFORATION OF THE MEMBRANA TYMPANI.

By S. W. Ingraham, M. D., Chicago, Ill.

The tympanum is an irregular cavity in the petrous portion of the temporal bone. It is separated from the meatus on the outside by the membrana tympani ; and connecting posteriorly with the mastoid cells, on its anterior face with the pharynx

and Eustachian tube, and internally with the labyrinth by the fenestra ovalis and fenestra rotunda. The membrana tympani or ear-drum membrane, therefore, bounds the tympanum. It is concave on the outside in the direction of the meatus, and convex interiorly.

The Eustachian tube extends from the pharynx to the anterior circle of the tympanum. It is partly fibro-cartilaginous and partly osseous ; it is wider at its pharyngeal extremity, and becomes narrower as it approaches the tympanic cavity.

The perforation of the membrana tympani is doubtless occasioned in the great majority of instances by otitis. Nevertheless, it may be from other well-known causes ; as from syphilis, scrofula, or direct injury through the meatus, puncturing and rendering it liable to inflammation and suppuration.

SYMPTOMS.

In cases of perforated membrane, the patient complains of a whistling or singing sound in the ear ; and some will describe this sound as resembling that of the rush of wind or water. When the perforation is complete, the uneasiness and itching sensation often so well marked in otorrhœa, passes away. There will be a confusion of sounds ; the voice will be altered in accent and upon a lower key ; the throat will usually be inflamed ; and the system as a whole will be in a wretched condition. There will be a purulent or muco-purulent fluid, oftentimes very offensive in small, discharged from the meatus; and also a disagreeable taste in the mouth.

TREATMENT.

It is necessary to ascertain the habits and general health of the patient, as well as the condition of the ear. We should direct the use of a plain, easily-digested diet, careful observance of the laws of hygiene, and require sleeping in a dry, airy, sunshiny apartment.

In case of syphilitic lesion, a preparation should be administered, consisting of Iris versicolor, compound syrup of sarsaparilla and potassium iodide. This should be followed up for weeks, and even months in obstinate cases.

If the patient is scrofulous, the syrup of Ferrum iodide, quinia and cod-liver oil will be beneficial.

If the Eustachian tube is closed so that a free current of air cannot be passed through it from the lungs to the membrana tympani, as well as through the nose, we should have recourse to the Eustachian catheter. By opening the tube and keeping it open the sense of hearing will be greatly improved. During the past five years I have had but little use for the ear-trumpet and I am of the opinion that it has outlasted its day of usefulness, and that recourse will in the future be had to the means of relief through the judicious use of dilators or catheters. The Eustachian tube is of wonderful importance to an injured membrana tympani, by acting the part of conductor of sound with room for complete resonance to occur. It thereby assists the injured member in the act of audition.

In conclusion I will remark that I know of no method that will accomplish so much good in cases of large perforation of the membrana tympani as the one referred to; but it may become necessary—or even be necessary—to use anodyne and astringent injections. There is nothing better for this purpose than the deodorised tincture of opium and solution of the nitrate of silver. If the inflammation has passed off without leaving the mucuous membrane in a hypertrophied state this will prove to be what is wanted; no matter how much of a hole or cavity there is in the membrana tympani.

OTORRHŒA.

By Georg E. Potter, M. D., Johnstown, Penn.

The ear is that organ situated on and in the temporal bones on each side of the head. It consists of three anatomical divisions, viz: the external, or auricle, including the meatus auditorius externus. The middle, or tympanum, is an irregular bony cavity occupying the outer part of the petrous portion of the temporal bone. It is bounded externally by the membrana tympani, ane internally by a thin plate of bone, which

is perforated by two foramina, the fenestra ovalis and rotunda. It contains a number of smaller foramina (which communicate with other parts), air, and the osseous chain, which is composed of the malleus, incus and stapes. The internal, or labyrinth, is divided into a half-dozen or more parts, but it is not deemed necessary to mention them in this connection. What has been said of the structure of the ear will suffice for our present purpose.

The ear, from its delicate construction and relation to the mucous membrane, lining the posterior nares, is liable to various functional and organic diseases. Acute and chronic inflammation are the most common ailments affecting this organ.

The various causes that produce imflammatory conditions in other parts of the body have the same effect upon the membranes lining the cavities of the ear, viz.; cold, injuries, foreign bodies introduced into the cavities, and sequels of the exanthematous diseases.

The busy practitioner during his daily labors will meet with quite a number of patients, especially children, who have a discharge of nastiness from one or both ears, and upon inquiry we find it almost invariably to be the result of an attack of scarlatina, measles, or some of the eruptive diseases.

The object of presenting this short essay is to report a few cases of otorrhœa, and the treatment pursued. My first was that of a lady aged twenty-three, who for several years suffered from partial deafness of the ear. During the early part of December last she contracted a severe cold which settled in the right ear, causing great pain and suffering. Poultices and fomentations had been used to very little advantage. About the middle of the same month she applied to me for treatment. I found the ear swollen and painful, and by drawing the auricle upward and backward, a polypus presented itself, filling up the entire meatus. This was very tender to the touch and of a grayish color. Upon a closer examination, be means of a probe, I found the polypus to be about one-half of an inch long, and attached to the posterior superior lateral surface of the meatus, near the membrana tympani. There

was an offensive ichorous discharge also. The polypus received an application of nitrate of silver once a day for a week, and it gradually disappeared, leaving no trace of it. During part of, this time I applied a lotion composed of nitric acid dilute gtts. x.; tinct. hydrastis, gtts. xxx.; glycerine, ʒi. The discharge diminished, all soreness disappeared, and within three to four weeks the ear was well and her hearing more perfect than it had been for years.

No. 2. A girl of twelve years about one year previous to applying to me had an attack of scarlatina. Following this she had a most offensive and abundant discharge from her right ear. I found that the membrana tympani was not perforated, as it often becomes from a continued suppurating process. This case was rather a complicated one; nasal catarrh and a bad cough were prominent troubles which would tend to make the ear-affection more difficult to cure. Daily application of a solution prepared according to the above formula were made, and immediately the discharge began to diminish, and in one month it had entirely ceased: the hearing greatly improved, the cough and nasal trouble, by use of special remedies, had almost entirely disappeared, and the girl presented a face of a roseate tinge for one of a pale and haggard expression.

No. 3. A lad aged seventeen years, in February last, presented his left ear for treatment. The auricle and surrounding tissue were swollen and quite painful, and a free discharge flowed from the meatus. After cleansing the ear from all morbid matter, my favorite solution was thoroughly applied, and in a few days no trace of the trouble was left to tell the tale.

No. 4. This case is now under treatment and presents difficulties that are not so easily overcome. The little girl is five years of age, and about one year ago she had a severe attack of scarlatina, which left her ears in a bad shape. During the early part of May last, she was brought to me for treatment. The discharge from both ears was profuse and of a yellow color, and at first it was very offensive. The membrana tympani of both ears are perforated by ulceration from the prolonged ichorous discharge. The ears have gradually im-

proved, but the right one still discharges a little, and this is on account of not being able to thoroughly cleanse the tympanum from all matter and properly applying the solution to the interior of the cavity. I hope to overcome this difficulty by giving it closer and more careful attention if it takes all summer. The solution will do the work if it gets a fair show.

My mode of proceeding is simple, and indeed more effectual than the use of a syringe: in fact I do not like the syringe for cleansing the cavities of the ear. A probe, made of a fine stick or metal is sharpened and flattened at one end, and upon this point a small piece of absorbent cotton is twisted and made into a pointed pledget, by means of which the entire cavity can be swabbed and cleansed from all matter more effectually than can be done from any amount of syringing. The pledgets are easily and quickly made, and it requires from three to ten of them to thoroughly cleanse the ear. The last one is dipped into the solution and carefully inserted into the ear and brought into contact with the membrana tympani so that all parts receive the application. It causes no pain and indeed is the most simple and grateful mode of treating ear-troubles of the character in question.

MYOPIA:

AN ENQUIRY INTO THE CAUSES OF ITS INCREASING PREVALENCE AMONG THE PUPILS OF OUR SCHOOLS.

By J. R. Borland, M. D., Franklin, Pa.

That Myopia, or short-sightedness, is on the increase in our common and academic schools, will be acknowledged by every well-informed educator; and that its causes should be sought for and if possible remedied, is certainly worthy of the best efforts of all who are interested in the education of the young.

It is not my purpose to enter upon a disquisition upon the anatomical construction or the physiological functions of the eye, nor the philosophy of vision, nor upon the abnormal con-

struction or perverted function, which constitutes myopia. The diligent student will find all these fully expounded in works on anatomy, physiology, diseases of the eye, and optics. It would be well, nevertheless, if optics and hygiene of the eye were taught in our public schools. Some authors declare that every near-sighted eye is a diseased eye.

"Cohn, in Germany, and after him Loring, Derby, Risley and others in the United States, have shown by extended investigation that errors of vision, especially myopia and astigmatism, increase remarkably in schools, colleges and universities. In some German universities the near-sighted students constitute sixty per cent. of the whole number. It is not so bad in any institution in the United States; but the evil exists here. Hygienic conditions have a large influence in this matter, especially *deficiency of light in reading*, and stooping or bending over the desk, so as to use the eyes *habitually too near the book or work*. Dr. Risley, of Philadelphia, in a recent report of elaborate observations made in the public schools of different grades, shows that under the best possible conditions healthy normal eyes may go through a prolonged course of study without disadvantage." But he adds: "Given an eye with an anomaly of refraction, especially astigmatism, the probabilities are, other things being equal, that the educational process (as now conducted, I hold,) will be fraught with pain and danger to the eye."* Hence follows the propriety of the careful examination of all eyes that give trouble early in life; so as by proper treatment, both in and out of the school-room, they may be protected from injury and increasing disorder.

Myopia may be congenital or acquired, the last being produced by causes independent of heredity. Although transmitted from parents to children, it is seldom noticed before the seventh year. After that period it begins to manifest itself in those whose antecedents predispose them to it. But myopia is liable to be contracted by children of families in which a near-sighted member was previously unknown. It may then be the result of prolonged and steady looking at an object near the eye, though at proper distance, without rest or

* HARTSHORNE: *Essentials of Practice*, p. 598-9.

frequent change of the visual focus, as in long and absorbed novel-reading, intense study, or persistent diligence in needle-work, more especially if the fabric be black.

Myopia is an accompaniment of civilisation, being, it is said, almost unknown among barbarous nations. It is rare among the poorer classes; and of these the inhabitants of our cities, from the nature of their occupations, are more liable to it than the inhabitants of the country. It has been said that a highly-intellectual people as the Germans, are more liable to it than others. The observation may be true, but that intellectuality of itself tends to produce it is a fallacy which is incapable of demonstration. It is rather *the faulty methods that have been employed for generations* in promoting intellectual growth which have so extensively produced it among the German people.

CAUSES OF MYOPIA.

The causes are of two kinds, which are analogous and mutual in their action, the one operating *within the school-room* under the eye, and to some extent under the control of the teacher; the other, *outside of the schoolroom*—at home, amid home-surroundings and amendable to parental control. I will enumerate some of them.

1st. *The school-age*, or the age at which children are permitted to enter the public schools, is fixed by statute in most of the States at six years. The eye is then in a tender condition; its tissues like those of other parts of the body soft, tender and undeveloped. Hence it is easily tired out with the using.

2d. *Black-boards and black slates* are school-room appurtenances of doubtful utility, if not absolutely detrimental to the eyes. Since the introduction of exercise-boards black has been the color universally employed. If the laws of optics are not to be entirely ignored black is certainly objectionable. Professor Bohn, of Breslau, Germany, has observed that children are obliged to hold *dark*-colored slates much nearer the eyes to read writing thereon than is necessary with *white* paper, and finds that writing on white paper is as distinct at a

distance of twelve inches from the eyes as that on slates at eight inches. It is a well-known fact among seamstresses that those who sew on mourning goods lose the use of their eyes much earlier than those who work on light-colored fabrics.

3d. *The almost constant use of the eyes* which, shortly after the pupil's admission, is, you may say, forced upon him by his teachers, in the intense application to study which the cramming process involves in the competitive race for intellectual advancement.

4th. *Fine print of text-books* is a prolific cause of myopia and disposes the pupil to acquire the habit unconsciously of holding the book too closely to the eyes.

5th. *Faulty construction of school-buildiugs*, as to the admission of light. If there be a profusion of light it produces a glare, if too little a straining of the eyes is the result. The color of the walls and furniture should also be looked after. They should possess sufficient variety and contrast to be, when looked upon, a relief to the eyes.

6th. *Ill-arranged seats and desks*. Donders says: "In the hygiene of myopia the very first point is to guard against a stooping position." It may be the result of habit, or from the desk not being graded to the size of the pupil.

7th. *Night-study at home* by gas or kerosene, which by their very brightness and glare must produce injury. Some of us can remember when a tallow-dip was esteemed a luxury "to read, write and cipher by." True, it was a poor light as compared with these, but it was soft and mellow and produced no glare. Pupils did not study so far into the night then as now, nor emulate the college-student in consuming "the midnight oil." Now-a-days classes are pushed with break-neck speed and the individuals in them "must study hard nights to keep up."

8th. *Habits of home life*, as keeping children in-doors, curtailing the area of vision, thereby preventing the exercise and variety so necessary to educate the eye to see at long-range. Children living in cities whose eyes dwell upon bare walls at short-range are more subject to myopia than those living in the country, who have the advantages of variety, of seeing

long reaches of fields and forests, hills, valleys and landscapes, by which their eyes are cultivated to see plainly at long- as well as short-range. This was well illustrated in the shooting tournaments of the American with the Irish and English teams. The foreigners barely held their own at short-range, while the Americans were superior at long range; which was attributable to the different conditions in the education of the eye.

9th. *Ill-constructed covering for the head.* The good, old-fashioned sun-bonnets, which the girls wore at home and to and from school wheh you and I were boys, were undoubtedly a great protection by warding the the blinding rays of the sun, but this nondescript article of female apparel called "a hat," is of but little use in protecting the eyes or any other part. The parasol must be brought into requisition to do what the sun-bonnet did much better.

THE REMEDIES.

These, from the nature of the case, cannot be curative, so far as eyes already injured are concerned, but rather prophylactic, to these pupils who are to follow in the educational road, and may be highly noted as follows:

1st. *Make the school-age or the age of admission greater,* say ten years, unless it be for kindergartens.

2. *Abolish black-boards* and substitute white or some shade of blue or green which will be more agreeable and less fatiguing to the eye and make use of colored crayons.

3d. *Abolish slates* and substitute white paper.

4th. *Tone down profuse or direct light* by muslin shades of light color.

5th. Substitute text-books *with larger print.*

6th. Permit the pupils to rest the eyes by "looking off of the book" occasionally, while your diligent pupil, intent upon his studies, scarcely lifts his eyes from the book. Your dolt who is "everlastingly gawking around," although he may not make as much intellectual progress, comes out of his school-going days with his eyes and other faculties uninjured, ready

to grapple and wrestle with the world *at sight*, whilst the other fellow must see it *through glass*.

7th. *Shorten the school-term* to three months; make the hours of study less, especially *for children under ten;* continue the old-fashioned forenoon and afternoon recesses.

8th. *Limit the number of simultaneous studies* so that the pupil shall not be required to study at night when he ought to be asleep.

9th. *Let the children play often*, or change the programme so as to give variety and rest to the eyes. The Jesuits have a rule which requires every one to change his employment as often as each two hours.

10th. Instruct teachers how to take care of the pupil's eyes.

11th. Teach directors and architects how to build and furnish school-buildings with reference to preserving not only the eyes but every faculty and function.

Two of my daughters who graduated in our high school are afflicted with myopia, which I attribute to two causes: intense study and too much light reflected from the blackboard in room No. 11, which is the worst one in the building. I would rather to-day that they had stopped in the common branches and thereby retained the proper use of their eyes. I hope this matter will be properly investigated, so that causes of diseases of the eyes, incident to acquiring an education, may receive due consideration.

PURULENT CONJUNCTIVITIS.

By WILLIAM BAIRD, M. D., Barnesville, Kansas.

It has been asserted by several authors that purulent conjunctivitis is rarely found in this country. I, however, come across it frequently in my field of practice, especially among those who are poor or filthy, and irregular in their habits, or live in low, unhealthy districts. It usually begins with a general aching of the joints and bones; with bowels constipated;

tongue coated; a bad, disagreeable taste in the mouth; appetite poor; irregular, chilly sensations followed by flashes of heat; headaches; the eyes itch and burn and feel as though there were particles of dirt or sand in them. This itching and burning is accompanied with a thin, watery, acrid discharge from the eyes, which in a day or two becomes thick and purulent or muco-purulent. The conjunctiva of the lids is generally considerably swollen and reddened, which sometimes quickly involves the ocular conjunctiva, and there is a free effusion into the areolar tissue. In severe or neglected cases vision may be permanently impaired by opacity of the cornea, or by a trachomatous condition of the lids. In some severe cases the cornea becomes thin and softened, and bursts, thereby allowing the escape of the aqueous humor, which is followed in a short time by the crystalline lens and a considerable portion of the vitreous humor. This disease is both contagious and infectious. Some are so susceptible that they will take it by being in the presence of those who have the disorder; but it is usually conveyed by using the same handkerchief or towel that has been used by those affected; and when it gets into a family all the members will have the disease unless great care is taken to prevent it.

TREATMENT.

The treatment of this disease should be both local and constitutional. We might succeed in curing some very mild cases with local treatment alone, but in all probability they would do well if not treated at all. Constitutional treatment alone will not cure. It is highly necessary that the practitioner should see that the patient is kept clean by frequent baths; that his clothing is changed as often as every other day; and that he is supplied with clean handkerchiefs, towels, etc., several times daily. When there is reason to believe that there are morbid accumulations in the stomach and bowels, they should be removed by giving an emetic or cathartic, or by both if indicated. Arterial excitement should be controlled by the special sedatives; generally gelsemium should be associated or alternated with the ones used. Periodical fever

should be arrested by giving full doses of quinia. If the patient is very restless and cannot be quieted with the Gelsemium, chloral hydrate may be given; or, if the bowels are open, an opiate may be used for the purpose of procuring rest. Locally the following should be used:

R. Zinci Sulp. grs. ii. to x.
Morphæ-Sulp. grs. ss. to ii.
Aquæ Destillatæ ℥j.

M. S. Drop two to five drops into the eyes four or five times daily.

The above prescription in any hands accomplishes all that can be reasonably expected, and for some years I have used no other.

PURULENT OPHTHALMIA IN INFANTS.

By R. A. Reid, M. D., Boston.

Grave as is the purulent form of ophthalmia, as seen in adult life, it is equally grave and much more common in infancy. In this, as in the purulent affection of adults, the whole importance of the case depends upon the degree to which the cornea is involved, and the attention, when an infant is first examined, should be chiefly fixed upon the transparency or opacity of that structure, rather than on the inflammatory evidences that exist, such as redness, swelling and purulent discharge. Some regard this as an affection purely catarrhal in character, while others of equal authority hold it as due to actual contact with the leucorrhœal discharge of the mother during parturition; still others tracing it in every case, as they contend to irritating substances, applied soon after birth, such as soap, during the washing process by an inexperienced or careless nurse.

From the variety of symptoms seen, it seems, to say the least, highly probable that all cases are not due to the same cause; and that while many of the milder ones are the result of exposure to draughts of cold air, and abrupt changes of temperature, or irritating substances, the more severe cases in

which rapidly-destructive ulceration, or sloughing, of the cornea dooms the unfortunate child to life-long blindness, are due to actual contact with the gonorrhœal or leucorrhœal discharge.

Since the accuracy of the diagnosis, and also of the prognosis, depends altogether on the integrity of the cornea, no pains should be spared to ascertain the exact condition. It is always difficult, however, to obtain a satisfactory view of the cornea of a child suffering with either this or other variety of corneal disease. Light causes so much pain that the little sufferer makes every effort to exclude it by keeping the eyelids firmly pressed together and resisting all attempts to separate them, thrusting his face into the pillow or against the dress of the attendant. To attempt to coax or parley with such a patient is but to waste time, and the surgeon must therefore have recourse to other means. He should sit with a towel spread over his knees, the attendant sitting just in front, securing the child's hands, and lowering him backward till his head is received between the surgeon's knees where it can be firmly held. No little tact is required to expose the cornea thoroughly without everting the lids, but that tact can be acquired by a little practice. The extreme end of the first finger with a small piece of rag twisted over it to prevent slipping, should be laid upon the middle of the upper tarsus at the very edge—between the roots of the lashes and the globe ; and the lid, without any dragging of the skin, should be pushed in a direction which in the erect posture of the body would be up and back. Almost the entire cornea will thus be brought into view, but if the finger drags the skin of the lid, the tarsal cartilage becomes instantly tilted over ; and the conjunctiva, bulging forward, effectually hides the eyeball. It is never necessary to interfere with the lower lid, for the cornea is always rolled upward under cover of the upper. A small wire speculum, if at hand, will readily accomplish the same purpose. Having exposed the cornea, the creamy matter that oozes out as the lids are drawn apart should be gently removed with a moistened rag or some cotton batting. The conjunctiva will be found red and swollen whatever the con-

dition of the cornea may be. One eye being affected, its fellow seldom escapes, though an interval of a day or two may elapse before the second suffers.

The plan that has seemed to give the best results is the frequent use of a weak lotion so as to remove the discharge before it collects in any quantity, and thus to assure the lotion coming into direct contact with the inflamed conjunctiva. Place the point of a syringe—making sure that it is quite smooth—just within the inner commissure of the lids, and the lotion will be discharged over the entire inflamed surface. The mother or other attendant must be strongly impressed with the idea that the preservation of the child's sight depends in large measure on her regular and faithful use of the wash, and she must be cautioned not to chill the child by wetting its clothes; the wash not being intended for a general bath. Local measures stand first, but there are others of the utmost importance in severe cases, the first often proving of no avail unless the child be well nourished. The health of the mother and her ability to suckle the child effectually become weighty matters for consideration. As I have repeatedly said, the danger lies not in the profuse discharge, as the uninformed would suppose, but in the liability of the cornea to undergo extensive ulceration or to slough. In such cases it first becomes dull and hazy, loses its lustre and looks "steamy," just as does a window-glass covered with condensed steam; then it gets opaque at its centre with softening of its tissue, and finally an ulcer, perforating the whole thickness of the cornea, forms; the iris prolapses and perhaps the lens and vitreous humor escape, the eye ultimately shrinking to a mere nodule. Much depends, no doubt, on the severity of the disease, but as much, or more, on the general vital power, whether the affection shall prove only a troublesome complaint, or greatly impair or absolutely obliterate sight. During that early period of life during which the disease manifests itself—commonly three or four days or at most within a week, after birth—the interchange of material in the system is so active and there is such a power of forming new tissues, that if this power be ably sustained by suitable measures it is often surprising to see how

rapidly a large ulcer of the cornea will heal up, leaving but a slight amount of opacity. In such a case a faint pink tint may be seen around the margin of the cornea caused by the vessels that are carrying blood to repair the breach. Minute doses of quinia (they should be minute), given in milk, seem of service to weakly infants, while blisters or leeches may destroy the last chance of staying the progress of corneal ulceration, and to attempt to bring such a child "up by hand" is to doom the eye to certain destruction.

CATARRH AND ITS SEQUENTS.

By JAMES E. BRIGGS, M. D., 126 West 11th street, New York.

Perhaps very few complaints have been more neglected, and more subjected to empirical treatment than catarrhal affections. What makes this the more remarkable is that they are so general, a very numerous portion of the community being sufferers. The medical text-books are meagre in their treatment of the subject; one would almost imagine that their authors had never heard of it. Very many physicians, if asked by a sufferer what to do, will give some brief, half-intelligible direction, and then hurry to change the subject. They abandon the field to the experimenters, the quack and the empiric, virtually confessing that they are themselves unable to cope with it. Indeed, the number of medical men who have catarrh and do not know what to do about it, is in equal proportion to the rest of the community who have tried many things and received no benefit. They seem to regard it as about as hopeless as cancer, with the one redeeming feature that it does not kill so quickly. It is passed over cursorily, skipped as soon as may be, and may as well be classed with the *opprobia medicorum.* Few Professors of Theory and Practice of Medicine seem to know much about it, judging by their lectures.

"It is a cold, or the result of a cold," is the usual explanation. This would seem to be very plain, but it is far from that.

What is a cold? One will discourse about damp weather, chilly rooms, and the like ; another will be very explicit about sudden transition from a heated room to a cold atmosphere; and we have a round of explanations. But then, a person seldom is unpleasantly affected by passing quickly from a hot to a cold atmosphere. In Norway, Russia and other cold climates it is the practice to keep the houses at a very high temperature as a protection against the severe weather outside. Damp weather is encountered almost constantly in island countries, with very general impunity. Indeed, it is almost safe to say that climate has little to do with the matter. The complaint is about as common and certainly as aggravated in summer as in winter, in dry as in moist countries. The causes must be sought from other sources.

Annoying as the complaint is, there is much connected with it that is really laughable. The New England people have contracted a peculiar nasal tone of voice, which is regarded as specifically Yankee, but is more truly a result of catarrh of the posterior nares. Probably nobody hears his own voice correctly ; and hence few are aware of any improper intonation. Yet it gives a queer impression to hear the peculiar *a*, *u* and *ow*, which are sharp enough to cut. Perhaps the absurd pronunciation is a modern distortion of utterance, but it evidently originated in the obstruction of the breath, and has become classic in Eastern estimation. It serves to distinguish the culture of Boston and New England from the broad enunciation of the Knickerbockers and other outside barbarians of the United States.

The causes of catarrh and the various seats of the disorder are numerous. We are safe in assigning the origin to debility. It is usual to attribute it to taking cold, yet no person who is not already debilitated is liable to contract a cold. Indigestion and fatigue are the principal causes of taking cold. Dr. Franklin used to say, that he would any time by overeating. Samuel Thomson observed that the great body of disorders which he was asked to treat were attributed to a cold. Bad air, insufficient exercise, improper food, exhaustion by fatigue or other cause, will be very likely to occasion

catarrh. Sexual excesses come within the category. Whatever cause enfeebles the patient, reducing health below the normal standard is likely to result in disorder; and the peculiar epidemic or untoward climatic influence gives form to the disorder thus indicated.

When merely a "cold" has been contracted the matter is simple enough. The pores of the skin are obstructed and the effete and noxious material which should pass off by the insensible perspiration is retained in the body. The lining membranes are called into requisition to perform the duty of the skin. Coryza appears among other symptoms, and the patient is annoyed by a feeling of obstruction in the nostrils, dull heavy pain in the head, and a stupid feeling. After a day or two there is copious excretion, accompanied by arrested secretions, dryness of the skin and constipation. It is generally supposed that this form of complaint wears off after a few days or weeks. It may be that the patient omits to notice it, but the wearing commonly lasts on a good while. The disorder of the nostrils becomes a permanent disease, characterised by ulcers in the posterior nares, inflamed fauces, and other continuations of the affection. Sometimes the uvula is lengthened and becomes a serious annoyance; the Eustachian tube is liable to obstruction, which results in deafness; and presently the affection of the diseased parts becomes more or less malignant, and extends itself toward the more vital structures, with more serious results. The various disorders of the membranes of the trachea, larynx, and bronchi supervene; the parenchyma itself is often involved, resulting in consumption, besides other disorders more or less common in this climate.

It is perhaps to be doubted whether coryza alone, simple cold, would of itself make progress to such a final culumination. The numerous array of blood-poisons, however, can generally be found at hand to be set agoing with this provocation. There is scrofula at every turn, manifest or obscure. Various ill-cured disorders, eczemas, exanthemata and others are lurking about in most constitutions; and even the vaccine poison, thought often apparently harmless, is an active

element in accelerating the progress of the various other maladies. The blood having been once set in ferment by it, nobody knows when it stops or is ever likely to stop. Where there is the most vaccination there is the most catarrh as well as consumption. The complications are among the most serious that physicians encounter.

The ozena is the common form of catarrh among us. The lining membrane of the nose has become permanently disordered and is reluctant to take on healthy action. The affection often extends clear to the frontal sinuses and even to the ethmoid and sphenoid cells. This is characterised by tenderness over the eyes and heat over the forehead. The eyes themselves are often impaired, as well as the hearing, while the taste and smell are chiefly abolished. Sometimes the bone itself is affected and becomes carious. The patient is usually characterised by a quick whistling breath ; but now a most offensive odor is superadded, disgusting to every one and most sad and distressing to the sufferer. This state of things continues a longer or shorter period, till all the functions of the physical economy are exhausted, and death takes place.

The membranes of the nostrils are in direct connection with branches of the Vidian nerve. This fact accounts for the close relations of catarrhal affections of the mouth and nostrils with disorders of the throat. There are three branches of nerve extending from the spheno-palatine ganglion. This ganglion with its branches is the organic nerve-structure affected in hydrophobia, and the poison in venomous animals is here secreted. It is situated on the external side of the nasal plate of the palate-bone. It gives off three branches : the palatine nerves, which supply the membranes of the mouth, the second, which supply the soft palate and uvula, and the back parts of the nose, and the Vidian or petrosal nerve. This last nerve is the most generally distributed of them all. One of its branches constitutes a part of the plexus of the superior cervical ganglion existing round the carotid artery. The other runs between the dura mater and the Casserian gangloin and joins the facial nerve, which it accompanies to the back part of the tympanum ; where it becomes

the chorda tympani. It enters the tympanum and passes to what is called the gustatory nerve and accompanies it to the submaxillary gland. Thus the disordered action induced from disease of the nostrils transmits its influence to the various structures of hearing, taste, salivation, etc. If hydrophobia affecting the same nerve-courses, is potent for so much mischief, certainly catarrh cannot be justly regarded as a trifle. It is indeed a very serious affair. It more or less disorders the functions of hearing ; it perverts taste and digestion ; and all the organs of the voice are more or less impaired.

In the hands of most physicians catarrh has proved intractable. This arises partly from their failure to understand the pathology of the complaint, and partly from the imperfections of the means to combat it. The text-books have been remiss in their instructions. Eminent practitioners considering it as an aggravated cold or disease of debility have contented themselves with a placebo or some mitigating treatment; and the patient himself, if he imagines himself getting better, is very apt to attempt the letting well enough alone, and neglecting the further care of himself. He charges the fault to his medical adviser for which he is himself to blame.

The treatment should doubtless be largely alterative and corrective of the secretions. The habitual constipation ought to be removed. The clothing should be cool rather than warm; overheating and overdressing being often alone sufficient to produce an aggravating of symptoms. While the lower part of the body should always be normally warm, the chest, shoulders and head may be with advantage left somewhat cool. The food should be plain, and the amount moderate. Overeating is to be shunned as a prolific source of mischief. One-fourth of the food usually taken, and frequently more than that, can be omitted with advantage.

The medicine administered should be given with reference to neutralising morbid matters and their expulsion from the body ; also to attune the nervous system. Tincture of perchloride of iron, tincture of Hydrangea, Baptisia, or Cypripedium can all be used with advantage. The nostrils themselves ought to be regularly and carefully cleansed from their

morbid secretions. These again taken into the system whether by swallowing or reabsorption, are both disgusting and mischievous. Many of our worst neuralgic and eczematous disorders are occasioned in this way. Indigestion or loathing of food are inevitable. Nor does the evil stop here. These are only as pickets and signals to give notice of more dangerous and overwhelming foes. The inhalation of water has been recommended for years, but it has never been satisfactory. If warm, the results are more or less troublesome; if cold, the work is not thorough. The sensation is more or less disagreeable, and we have known painful tic douloureux and erysipelatous inflammation to follow. The inhaling of glycerine is more beneficial, but it is mechanically difficult and often troublesome, so that few would persist in it till results were beneficial. We have been led therefore to use a simple spray apparatus with a medicated water, which would be forcible enough to reach all affected parts and cleanse all about the cells and turbinated bones, but yet so simple as to occasion no unpleasant violence to the tender surfaces. The poisonous matter would thus be neutralised on the spot and removed, and the membranes induced to begin healthy function. It requires diligence, patience and persistence; but the reward, the getting rid of a loathsome and disgusting affection, is an abundant equivalent. The constantly recurring disagreeable accompaniment in society may then be kept more out of sight, and so the blessings of social intercourse become more delightful.

LARYNGITIS.

By Mason M. Miles, M. D.

The larynx is a cavity at the the top of the windpipe, formed by the union of cartilages, namely: the thyroid, the cricoid, the two arytenoid, and the epiglottis. These are bound together by ligaments, and muscles move them.

This forms the beautiful and convenient cavity which is

technically called the *larynx*. Across this enclosure are stretched two cords, called the vocal ligaments. Just above these cords are two cavities which, with the ligaments, act an important part in the formation of the voice. Here is produced the sound which is modified and articulated by the tongue, the lips and the nasal cavities. Hence, the larynx has been called "the seat of the voice."

Laryngitis in an inflammation of the mucous membrane which lines this curious cavity. When disease reaches this organ, and the fluid secreted to lubricate these cords becomes acrid, the voice is rendered hoarse; and when these ligaments become altered in structure by inflammation and ulceration, the voice in many cases suffers a gradual extinction.

The little follicles or glands often become involved in the malady, constituting what may be termed *Follicular Laryngitis*. The disease is often attended with the secretion of a thick, tough mucus which is expectorated with great difficulty, and if it results in ulceration we may have a large quantity of purulent matter secreted daily.

In the chronic form of the malady, particularly when attended with ulceration, there is frequently great pain in the larynx, difficulty and pain in swallowing, hoarseness of voice, with violent fits of coughing; the patient expectorating a sanious-looking matter, which has occasionally an offensive odor.

The approach of the disease, however, is often so insidious as hardly to attract notice; sometimes for years giving no other evidence of its presence than the annoyance of something in the throat to be swallowed or hawked up, an increased secretion of mucus, and a loss of power in the throat. At length the throat of the patient becomes sore, its secretions increased and more viscid, the voice grows hoarse, the difficulty of speaking is aggravated, and the case becomes more or less alarming.

The attention of the profession was first called to this malady about fifty years ago. Since that time the cases have increased with great rapidity. The number now can hardly be computed. At first the disease was mostly confined to the

throats of clergymen. Hence the appellation, "Clergymen's Sore Throat." It was soon found, however, to be no respecter of persons. Public speakers, school-teachers and singers are more annoyed with it than most other persons.

CAUSES.

Nasal catarrh is one of the most prominent causes of this disorder at the present day. The poisonous secretion drops down from the nasal cavities into the throat and produces irritation, which in time results in a deep-seated inflamation, and frequently in ulceration. The exciting causes of the catarrh are: Taking cold from wet and cold feet, sudden changes in the atmosphere, which often produce obstruction in the pores of the skin, and an unequal circulation and congestion of the throat.

The inhalation of noxious vapors and particles of dust are often to be included, as well as scrofula, erysipelas, diphtheria, public speaking and singing. Excessive mental and physical labor, and a general derangement of the system, producing debility, will aggravate the complaint and are among the primary causes. There are many others, but it is deemed unnecessary to mention them.

TREATMENT.

Some years ago this malady was considered incurable; but a thorough study of the nature of the disease has given us a clearer knowledge of the causes and proper methods of treatment for it cure.

The late Dr. Horace Green, of New York City, was the first physician in this country to apply remedies locally for the cure of this complaint. He invented the sponge-probang. This he dipped into a solution, prepared from the crystals of nitrate of silver, and dextrously introduced into the laryngeal cavity; thus applying the medicine directly to the diseased part. This was a severe method of administering remedies; yet Dr. Green was generally successful. Sometimes, however, where the larynx was highly inflamed, the introduction of the instrument would cause the parts to contract upon the instrument

and cling to it, and almost cause laceration upon its withdrawal.

I have used the probang more or less, notwithstanding its defect, and usually with marked benefit.

Subsequent to the introduction of Dr. Green's method my old friend, the late Dr. Ira Warren, of Boston, invented what he called a "Laryngeal Shower-Syringe." This was a decided improvement on the probang; it also had its defects.

Many years ago I had an instrument constructed on a new plan, which I called a *Laryngeal Silver-Syringe.* On the end of this instrument is an elliptical bulb pierced with very small holes. I introduce it daily into highly-inflamed throats, usually without giving the patient the least inconvenience. The instrument is charged with a medicated solution; then carried to the proper point, and all sides of the walls of the larynx are instantaneously bathed with a shower of the medicated fluid. It is so quickly and gently done that when the operation is performed the patient scarcely knows it. After he has been treated with this instrument it is difficult to persuade him to have the probang used. I have in this way effected a radical cure in some of the worst cases on record.

The medical solutions which I use with this instrument are prepared largely from the following drugs, viz.: Grindelia robusta, Penthorum sedoides, Polymnia uvedalia, Sticta Pulmonaria, Eucalyptus globulus, Mangifera Indica, Lepigonum medium, Rhus aromatica, Phytolacca decandra, Lobelia, Ipecacuanhæ, and occasionally argenti nitras, etc. The solutions must be varied in strength to adapt them to the various cases. I use from ʒj. to ℥jss. of the fluid extracts to ℥vij. of distilled water.

In some cases I employ these remedies in the form of medicated vapors by the aid of an inhaler of my own invention. These medicines soothe and subdue the irritation and inflammation and cause the diseased parts to take on a healing process, and ultimately effect a radical cure in all curable cases. Many cases of laryngitis require constitutional treatment in connection with the local. Intelligent physicians, however, will understand this fact, and will be governed accordingly.

PHTHISIS OF THE LARYNX.

By D. E. Smith, M. D., Brooklyn, New York.

Laryngeal Consumption is an insiduous disease and usually begins with a slight inflammation or rather catarrhal irritation of the mucous membrane of the larynx, producing hoarseness and a husky cough. Generally, however, the cough, so far as it depends upon laryngeal trouble, is insignificant. The expectoration is at first of a frothy character. These symptoms may continue for several weeks or months without any serious apprehension on the part of the patient. The complaint is so insidious in its invasion that it is often far advanced before the patient manifests any anxiety.

The next feature observable is a slight difficulty in swallowing. An increased defect in the voice is also noticeable upon speaking loudly, or when varying the tone. The voice becomes more and more of a cracked character till its healthy tone is lost. It is sometimes a dry squeaking or whispering, and complete aphonia often ensues. The expectoration is at first scanty, but as the disease advances it becomes of a mucopurulent character; shreds of blood are sometimes attached to it, and at times it is even fetid. Ulceration and disorganisation of the parts presently occur. Dead or ossified portions of the cricoid cartilages with calcareous substances are found in the larynx and are sometimes expectorated; but more rarely they fall into the trachea and pass into the bronchi causing inflammation and ulceration of the parts where they lodge. When the epiglottis is complicated, as is often the case, swallowing becomes exceedingly difficult and spasms of the glottis with suffocation frequently occur in the act of deglutition.

CAUSES.

Exposure to cold, wet or currents of air, swallowing acrid or corrosive fluids; drinking very hot water; inhaling pungent vapors, as the fumes of sulphuric acid, strong aqua ammonia, or chlorine gas. It sometimes takes place from repeated

attacks of sore throat, and not unfrequently follows as a sequence to diphtheria, laryngitis, catarrh, or suppressed eruptions. Statistics show that males are more subject to this affection than females in the proportion of two to one.

PROGNOSIS.

The prognosis of phthisis of the larynx is, taking all things into consideration, unfavorable. The prudent physician will always be careful how by the use of words he expresses a favorable opinion as to the issue in this disease, as it is often complicated with tuberculosis of the lungs. As a general thing more die than recover; yet under judicious and careful treatment a large proportion may get well.

TREATMENT.

Formerly blood-letting was the sheet-anchor, especially in acute laryngitis, and to show the extent to which this treatment has been carried, I will refer to the case of Dr. John W. Francis, of New York, as reported by Dr. J. B. Buck, in the twelfth number of the New York *Medical and Physical Journal:* "Dr. F. had complained for three days of soreness of the fauces and when he was attacked with pain, difficulty of breathing and swallowing and a sense of strangulation for which 153 ounces of blood were abstracted as follows: On the 17th of November, ℥xi., evening, ℥xxx.; 18th of November, ℥xvi., evening, ℥xvi.; 19th of November, ℥vi., evening, ℥xvi.; 20th of November, ℥xvi.; 22d of November, ℥xii. For three or four days after Dr. F. was still in a precarious condition and required a repetition of the blood-letting."

Who will say after this quotation of the treatment of inflammation of the larynx by Old-School practitioners, that the innovation of the Eclectic practice was not a necessity and imperatively demanded?

The treatment resorted to by Eclectics (the innovators of medicine as we are sometimes called) consists of both local and constitutional means. In order to give in as brief a manner as possible our method in phthisis of the larynx, I will re-

port a case. I will here state that the treatment of the patient to which I am about to refer may not coincide with the views of all Eclectics, and also that all my cases do not terminate so favorably. If a physician saves two-thirds of his patients who have phthisis of the larynx I think he is doing very well.

About twenty years ago the Rev. Mr. G———, a clergyman connected with the Methodist Episcopal church, called at my office to consult me with reference to a throat-affection which had troubled him for the past year. He was unable to preach and it was with the greatest difficulty that he could even speak aloud, having at times complete aphonia. He had a hoarse, peculiar cough; the expectoration which was at first of a frothy, mucous character, was now muco-purulent with small streaks of blood; the appetite, too, was poor; he had a haggard look with great emaciation; and in fact he had about given up all hope of ever preaching again. The mucous membrane of the larynx was evidently in an ulcerated condition and his symptoms were of a dangerous character. I would like to write out the history of this case in full, but will at once proceed with the treatment and the result. I ordered his diet to be of the most nourishing character and taken at regular intervals, and no drink allowed at time of eating. This was with the view of having the food well masticated and insalivated in order that it might be easily assimilated after digestion, and thus impart strength and vitality to the system, which are of the utmost importance in this disease.

For the aphonia, R. Tincture Drosera, five drops in half a tumbler of water; a teaspoonful once in three hours. This soon restored the voice. Expectorants were given combined with alteratives; of the latter the principal one being the Syrup of Iodide of Iron.

In addition to the above treatment, counter-irritation was produced over the larynx in the most thorough manner with Croton oil. In four weeks he was restored to health and sent to the mountains for two months to recuperate, with positive orders not to attempt to preach. In six months after I first

began this treatment, he resumed preaching and has continued to do so for the past eighteen years. He has never since been troubled with his throat. I attribute the cure largely to the severe counter-irritation without which the other treatment would have failed.

PAPER READ BY TITLE BUT NOT RECEIVED.

The Use of Antiseptics in the Treatment of the Respiratory Organs, by J. R. BORLAND, M. D.

(E) DERMATOLOGY.

V. A. BAKER, Chairman. J. W. PRUITT, M. D., Secretary.

DISEASES OF THE SKIN.

Address by the Chairman.

The relation of the Cutaneous exhalants to the physical economy, and the serious and often fatal results of maladies which affect the surface of our bodies, are well known. A want of knowledge on this subject led in a former century to the gilding of the body of a child with gold foil, for purposes of public exhibition. The coating was impervious to air and moisture, and arrested the functions of the skin almost immediately. Congestion of the lungs and brain ensued, terminating speedily in death. The physicians did not even suspect the cause of dissolution.

Even now, however, the pathology of skin-diseases is imperfectly comprehended. The text-books are numerous enough, but they are in many respects an impediment to the practitioner. The various authors, in their anxiety to exhibit themselves as original observers and discoverers, have devised a swarm of names, classifications and subdivisions, too numerous to be remembered, and not always distinctions with any important difference. A simpler mode of investigation will be found to be more suitable and satisfactory. The physiology of the skin should be carefully studied, and its conditions in health. The influences that operate to disorder it are to be carefully noted. Very often a faulty digestion will be found to be at the bottom of the abnormality. The condition of stomach known as pyrosis, or water brash, will often be attended by a peculiar affection of the skin. True, it is only evanescent, and soon disappears; nevertheless it affords a valuable suggestion.

Eczema rubrum of the lower extremities often assumes an

intractable form at the menopause in women. There is a radical change in bodily habit at this period in life, which sorely taxes the energy of the dermic functions. With unfavorable idiosyncrasies, or if you please, tendencies, various forms of disturbance are manifest. It is clearly necessary to give constitutional treatment to the patient of a sustaining character; and local care bestowed on the parts immediately affected, including pressure with the bandage equally distributed, will often suffice for complete restoration.

It will be rank folly for us to imagine that soothing salves or ointments, poultices or washes will be of more than temporary benefit in such cases. True, there are several forms of parasitic skin-disturbances that are treated almost specifically with topical applications; but such are self-limited in character and often sure to get well without any care.

Erysipelas is a manifestation of skin-disorder that requires early to be well handled; and while some of its forms may start *per se* as affections of the surface only, yet if the circulating fluids contain a superabundance of broken-down material, this will be found to be as a fuel to feed the fire that has been kindled. It appears to me that iron administered internally in the form of Tinctura Ferri Hyd., and tincture of Veratrum viride properly applied externally, while the line of demarkation was held in limit by painting with the Iron-Tincture, gave the most satisfactory average results.

Leprosy, the dreaded scourge of Asiatic countries from remote antiquity, has invaded this country together with the Chinaman. We may thus be recompensed for the syphilitic scourge which the Europeans have conveyed to the islanders of the South Sea. It will be high time for us to engage in the study of this new exotic, and ascertain how it may be successfully combatted. Our School of Medicine has achieved many triumphs, but this would exceed them all.

The Clustered Lichen is a disorder that attacks its patient at every period of life. Individuals exposed to the heat of a fire, those of a nervous and irritable temper, and children of a bilious habit, are most liable to it. A stimulating diet, use of alcoholic drinks, every thing in short which induces a rise in

the temperature of the blood, seems to aggravate the itchiness characteristic of this eruption. When it assumes the chronic form, it is not so easily cured, and will often disgust the patient and physician alike. Dr. R. E. Kunzé who has given study to this complaint, has set forth his views and observations with great ingenuity and distinctness. He treated cases on what he calls "the double shotgun style—a kind of doubling-up of compounds and come-arounds." He finds a solution of calcium sulphide very serviceable to allay the tormenting itch of lichen, prurigo, etc. He defends his treatment in forcible language, striking blows in return for having received them. It new becomes necessary, he remarks, to explain why, in the treatment of Lichen, we have had recourse to such complicated prescriptions.

Chronic diseases as a rule need something more than simple medicine, all the objections notwithstanding. Even Homœopathists use Warburg's Tincture, one of the most complicated conundrums of simples and compounds ever conceived by the fertile brains of mankind. It is employed in fevers and is composed of thirteen simples and one compound known as *Confectio Damocratis;* which is in turn composed of thirteen simples and another compound called *Trochisci Kyphi*, a composition of the ancient Egyptians consisting of fifteen ingredients, according to the older writers [fifteen according to Pliny and sixteen according to Plutarch]. We then have in this celebrated mess, therein called Warburg's Tincture, no less than *seventy-five* ingredients, which has of late been so much extolled, and is not used by the so-called quacks of our community, but by the pretenders of the Allopathic or Homœopathic Schools of Medicine. Eclectics are privileged characters, not bound by a Hippocratic oath, and may use simples or compounds without infringement of their Code of Ethics, if their judgment so demands it. There is not a plant in the Materia Medica of the universe which is not a compound medicine ; and nearly every chemical which we use is a combination of some form or another. The air we breathe, the food we eat and the most simple plants we use for medicine, are compounds of Nature. Few plants possess a simple

property, but many properties are commonly blended together in the same plant. Simple medicines are one thing and simple medication quite another. There is a certain school of medical men who give medicine it is said to amuse their patients. We, on the other hand, give remedies which are intended to disabuse the minds of our confiding patients, that we pursue any similar mode of practice.

Several years ago the late Dr. Fraser, a member of this Association, published a monograph in which he prescribed hot water for a large number of maladies. Since that time the same idea has been taken up by a physician of the Massachusetts Medical Society, and of course Dr. Fraser will be sedulously overlooked, which is the common penalty that we undergo. It is certain that hot water comes in for a large share of glory in the modern treatment of all affections of the skin especially those in the acute form. Cold water, however, may be better adapted to individual cases. But the water treatment must be considered in the long run the most sure and satisfactory.

In concluding this brief introduction, I will remark that we may all profit by devoting a reasonable part of our time to the observations and study of this class of maladies.

CUTANEOUS MALADIES.

FUNDAMENTAL PRINCIPLES IN THEIR TREATMENT.

By V. A. Baker, M. D., Adrian, Mich.

The classification, division and subdivision of skin-diseases is a stumbling-block to most practitioners of medicine. Writers on these maladies are usually verbose and fail to make their subjects clear, pithy and practical. They say too much and usually leave the reader impressed with the necessity of classifying, in a mistified sort of way. He may wish he had the astute nosologist who describes the multitudes of these diseases, to name the particular one for him that is at

the moment under consideration, so that the prescription may be made out "scientifically." All physicians in general practice have applicants for repairs of the cutaneous covering of some part of their bodies. Such cases need the investigation necessary to classify, as to acute or chronic, parasitic or non-parasitic. If we are called upon to prescribe for common itch *(Scabies)* we should know that parasitic multiplication is the cause *(Acarus Scabiei)*, and that parasiticides are the remedies. I will merely remark in passing that I have never found any way better than the old method—simple sulphur ointment—℥iij. to ℥iv. of which may be rubbed well into the surface twice daily for two or three days, wearing an old garment next to the body which can be burned when the process ends. At bedtime the third day a hot bath of soap and water completes the work if thoroughly done. The parasites known as head-lice (*(Pediculus Capitis)* and body-lice *(P. Corporis)* are successfully combatted by a tincture or strong decoction of *Cocculus Indicus*, which may be used as a wash to parts. This remedy will also destroy fleas and all surface-parasites so far as my experience goes, and I have used it many years. The knowledge of this remedy was communicated to me by the late Dr. Rosa, of Watertown, N. Y., a member of the Eclectic Medical Society of that State, who for many years consulted with and had charge of the poor of Jefferson County. It was his sole reliance. If the physician classifies his skin-diseases as parasitic or non-parasitic, he will treat them accordingly; and it is as a rule simple enough for the whole class of skin-maladies. I was much annoyed till late years by occasionally meeting with a case of Favus that I could not treat satisfactorily, but for fifteen years past I have had no trouble: thanks to hot water, alkaline treatment, elm poultices (made wet with alkaline water) often enough to remove crust and expose surface, then following with *Ointment Picis Compositæ*.

R.—Cosmoline ℥iv.
Oil Tar, Fl., ʒij.
Citrine Ointment ℥j.

M.—Apply night and morning, using twice a week the alkaline wash.

R.—Bicarbonate of Soda ʒj.
Soft water oj.

M.—Apply thoroughly at bedtime with a well-cleansed fine sponge.

A cap or special pillow may be improvised till the patient is cured. If the system is morbidly impressed I give Calcium Sulphide ℈j.; water, ℥vi.; M.—sig.—A teaspoonful three times daily before meals. After the mixture has been well shaken a little essence of Gaultheria may be added. I have not met any cases, even the most stubborn,. that have not yielded to this treatment.

The practitioner who is mindful of fundamental principles will apply them in the treatment of skin-diseases, whether the cause be a parasite or whether the disturbance be due to alteration in the secretion of the glands of the skin. Cleanliness is an imperative necessity, whichever cause is to be combatted, and especially is it a necessity in all parasitic skin-disorders ; for frequently we meet with cases of stubborn form that are modified so soon as the skin is placed in a proper hygienic condition.

A few words on skin-affections expressive of general causes: Let us begin with Comedones This common condition of the skin when slightly in advance of normal is rather unsightly and often mentioned as "grubs," "worms," etc. This is simply a retention, or, if you please, an inspissated condition of the secretion. Not being duly execreted it becomes less fluid, thickening sufficiently so that when squeezed with the fingers a slender thread-like mass is ejected corresponding to the follicle which retained it. The blackened end which is first to appear under pressure, is little harder than that which follows, its dark color being due to contact with dust, and its hardness to dryness from contact with the air, etc.

Again, acne, a disorder of the sebiparous follicles, no matter as to division and subdivision, so far as serves our present purpose, viz.: the simplifying of treatment. We need, of course, to bear in mind the fulfilling of indications ; to make each case a study as to the time that it has existed, its vigor

of attack, behavior, etc., and then treat accordingly. Common acne, to be sure, is easier to treat than its congener, *Acne rocascea*, the former being prevalent in earlier life and oftener in the female than in the male, while the latter is a disease of middle life, more especially and oftener in the female than male. The critical period in women with tendencies to this complaint, is likely to aggravate it as well as also to develop it in others who have never had the trouble. These facts considered give hints as to the means to be employed for its removal. In those who inflame the mucous membrane by alcoholic stimulants, developing "whiskey-blossom" in middle life, the special indications are suggested, hygienically, by our knowledge of such habits, while the local treatment will be the same, circumstances being equal. I order the skin-affected with acne, mild or severe, to be bathed in water as intensely hot as can be borne, at bedtime, followed by a wash consisting of one grain of corrosive sublimate to two ounces of soft water. This I order to be repeated two or three times weekly. I also give internally one grain sulphide of calcium twice daily in pill or powder. The powder triturated with sugar of milk is preferable. I often give Rhus toxicodendron in stubborn cases and such other treatment as special cases seem to demand. The bowels should be kept open by the use of saline aperients. If the skin is harsh or fissured I use Cosmoline ointment.

R.—Cosmoline ʒi.
Sub-Nitrate of Bismuth ʒi.
Attar of Rose, drops ji.

M.—Apply lightly night and morning.

It is not intended in this paper to discuss the subject of skin-diseases scientifically and elaborately, but rather to call attention to the distinction between disorders arising from causes without (parasitic) and those manifestations that have origin from within, or from some faulty condition of the glands.

Take for example Herpes Zoster. There is a diminution in the uric acid, while the urine is ammoniacal and decomposes rapidly. In all such maladies constitutional treatment is clearly indicated; so with the whole family of Exanthemates. The

specific and irritable quality of bodily fluids in measles, scarlet fever, small pox, etc., seems to act on the principle of a ferment. The skin, the strainerage outlet of the irritative material, is thus reddened by the irritable quality it is exhaling in vapory form. The exhalation of temperature, too, is easily accounted for, as also is the increased rapidity of pulse ; the chemical forces are for the time in advance of the normal vital forces ; nature in the same ratio manifesting disturbance and danger. Summarizing in a general way we may marshal, by way of conclusion, a few remedies ; not alluding, however, to parasitic skin-diseases, as we have mentioned treatment for such before. Nor is it intended to give a digest of accidental acute affections of the skin—either expressive of constitutional causes, as erysipelas, measles, scarlet fever, etc.; or of those skin-disorders expressive of poison conveyed from without, as poison ivy, poison sumac, etc. These are so classified that our libraries afford ample information; whereas this paper is intended, if possible, to show that a few fundamental principles which are understood and adopted, will carry the practitioner smoothly over ways seemingly rough.

The remedies of prominence and value in the mastering of skin-disease and that stand the crucial test-observation and experience, I will now name:

FIRST, *internal remedies. Sulphide of Calcium* in non-inflammatory diffusive skin-diseases, or as corrective in all indolent forms of cutaneous affections, including boils, sties, tubercles of skin, acne, etc.

Arsenicum, either in form of triturations—one grain to twenty grains of sugar of milk and this given in doses of one to three grains in water three times daily; or liquor potassiæ arsenitis, three, five or seven drops in water, or added to syrup of *Yellow Parilla and Yellow Dock Compound*, a favorite and valued remedy, expressing itself energetically through the skin, three or four times daily.

The *Iodides of sulphur, arsenic, potassium*, etc., are valuable remedies in the chronic skin-disorders, studied and used as indicated, as is Iodoform and Iodine tincture.

Bromides of potassa, soda, etc. in acute and sympathetic conditions of the skin, are remedies of standard worth ; while Aconite, Veratrum viride, etc., are adjuncts never to be forgotten as indicated. *Rhus Toxicodendron*, in acute and sub-acute skin-diseases, characterised by burning and itching of skin, has merit.

Spiritus Nitri Dulcis is a remedy of decided value when scanty secretion of kidneys is associated with discoloration of skin, furfuraceus tendencies, dryness in sections of the body, as about knees, elbow joints, etc. In this form of tetter the *green osier (Cornus Circinati)* is a remedy of value, both in form of ointment and added to the compound syrup of yellow dock and given internally. The sweet spirits of nitre is also a topical application of no mean order in irritation following bee-stings, ivy-poisons, etc.; reduced one-half or two-thirds in soft water and used freely. Ammoniated water is also a remedy of merit. In *Urticaria* the sweet spirits of nitre internally and externally is my first remedy, and usually the only remedy necessary.

SECOND.—*External Remedies*. Soda, bicarbonate or supercarbonate (applied topically) is a remedy that attention has been called to of late as pre-eminently useful to allay the pain of burns and scalds. I have tested a saturated solution of this and found it to act nicely, although the mixture of sweet oil and lime-water is not to be forgotten. After the pain has subsided in burns and scalds, the alkaline treatment should give way to carbolised olive oil; and here it is well to suggest to younger members that as the cutaneous absorbents are sensitively active in these cases, all applications necessary as dressings should be prepared with this fact in mind, that unnecessary medication be not forced upon our patients. Belladonna Ointment was accidentally applied to such a case coming under my observation, and a large proportionate surface was denuded, with alarming results. Ten to fifteen drops of carbolic acid to a pint of pure salad or olive oil is enough, in such cases used locally.

Moth, Liver Spots, and various discolorations of skin, are

primarily due to disturbances within, and as a rule require constitutional treatment, aided by topical applications; corrosive sublimate—one grain to the ounce of alcohol, rubbing the part briskly as the remedy is used—is often effectual; its effect being enhanced by the use of hot water before the application is made, applied as hot as can be borne.

Subnitrate of Bismuth in indolent forms of skin-disease (eczema, etc.,) and in infantile scald-head, in form of ointment, is often of value.

Chrysophanic Acid in chronic forms of skin-affections, non-irritable, yet characterised by break of texture, I have tested to a certain extent, but it is so unpleasant to use, as to effect, staining the skin and soiling clothing, and in my hands not superior to other remedies, for instance Compound Pix Ointment, mentioned before, that I have set it aside.

Oleate of Zinc. What little experience I have had with this remedy pleases me. Dr. Shoemaker, of the Hospital for Skin-Diseases in Philadelphia, gives it the preference as a remedy for excessive sweating, as in hyperidrosis, osmidrosis, and used around axilla and genitalia, removing odor, etc. With parts weeping and itching, swollen, rawness of surface, and the like, it acts in a masterly way. "The oleate is a pearl-colored powder, to be dusted over the surface to which it clings, neither falling or brushing off."

There are remedies not mentioned in this paper equally as good, no doubt, as the few mentioned. I speak of those that I have tested and found serviceable; and when properly used *with hygiene of skin and general hygiene enforced*, diet carefully arranged, skin kept clean, hot water, *sometimes alkaline and hot*, not lukewarm or warm merely, but *hot as can be borne*, and if too much surface is involved, used only at bedtime, followed by appropriate topical applications, will cure our curable skin-disorders, even the worst.

VACCINATION:

CONSIDERATIONS AND STATISTICS.

By JOHN KAYE, M. D., Philadelphia, Pa.

We hear and read a great deal in these days about the various schools or sects in medicine, and like the votaries of all sects and creeds in the past history of the world, each thinks, feels and acts as though the school which he has selected, is the only right one. This is all very well, provided he does not allow his love for his adopted child to absorb his mind and to run away with his feelings so as to disqualify him for rendering an impartial judgment.

When any man or body of men attempts to uphold any notion in medicine, or in any of the collateral sciences, he or they should be guided by facts, particularly when the prosperity, the health and the lives of the community are involved.

Perhaps no art so largely and so directly affects the welfare of mankind as that of medicine in its varied branches and specialties. Yet, if we are to believe history, there is none that has been and still is cursed with more false theories, and more false conclusions based upon false hypotheses, resulting in disastrous effects on the human family. What makes the picture still more glowing is, that it is not the ignorant, not the so-called pretender to medical skill, not the so-called quack or Irregular, from whom "scientific men" seem to be so anxious "to protect the dear people," who have been the cause of this state of affairs. They, themselves, the teachers of schools and colleges, and the professed leaders of scientific investigation, have either been deceived by accepting dogmas on authority and teaching and upholding the same ; or, being convinced of the fallacy of many of the practices of their time, they have acted from considerations of policy, either for money and popularity together with peace and quietness, or else from cowardice, the fear of persecution and the ostracism, almost sure to follow anything called "irregular." Nor is that feeling, that fear of persecution, that fear of being ostracised, as it were, without some cause, even at the present

day, in this "land of the free and home of the brave," in this enlightened nineteenth century." We find that efforts have been made, and are now in progress, and further efforts will be made in the future in every State in the Union to pass laws regulating the practice of medicine; which laws being interpreted, construed and administered by the self-styled "Regulars," are intended to wipe out effectually all who do not belong to their number. Not only would they crush out all who differ with them as to treatment, but they are even going farther. I am sorry to know that even in the ranks of the Eclectics there are those who are ready and willing to lend their aid in the passing of statutes compelling the people to submit to treatment, for which some of them have a holy horror.

If there is any one thing above all others that a man has a right to claim, it is the right to refuse to have his blood or that of his offspring contaminated, at the instance of any physician or any statute, with scrofula, syphilis, or any other vile poison, under whatever guise or name it may present itself.

We believe in the motto: "*Omnia probate; quod bonum tenete*"—"prove all things; hold fast that which is good." We also believe that it is very necessary to be sure of the proof; to be sure we have demonstrated the truth beyond a reasonable doubt at least, and by remembering what President Abraham Lincoln once said: "That to demonstrate anything was one of the most difficult things he had ever undertaken to do," we may be reminded of the care necessary in all our investigations.

Have we as Eclectics always done so?

What investigation have we had on the question of vaccination?

How much protection against variola is afforded by vaccination?

What are the dangers arising from vaccination?

Are the evils produced greater than the assured benefits to be received?

How should we vaccinate—if at all? from arm to arm, or with bovine virus?

In answer to the first query allow me to say that I fear we, as Eclectics, are too prone to follow blindly. While we have in our ranks men of stamina, of undaunted courage, we still, as a mass, as a whole, lack that vim, that determination to know the reason why for everything.

In regard to the question of vaccination, what we heard while attending lectures at college in regard to it was mostly all one-sided. What we read from the text-books is about the same; and I think I am safe in saying that nine out of every ten graduates when leaving college to enter practice honestly suppose that vaccination is the true protection against small-pox. They have not investigated the matter because *medical students are not permitted to do this.* They have been assured that vaccination is the *ne plus ultra* of protection; and hence never doubt and never question it, till a case in practice, or some incident calls their attention to it. Even then, if they should express their doubt of its efficacy to some medical friend, most likely they will be pooh-poohed out of wasting their time to investigating something already settled.

How much protection does vaccination afford against variola?

Dr. Edward Jenner, of Berkeley, Gloucestershire, England, is credited with being the discoverer of vaccination, and the English Government paid him £30,000 for his discovery.

Speaking of the absorption of the cow-pox virus into the systems of the milk-maids, and describing the symptoms, he declared: "the person who has been thus affected is forever secure from the infection of small-pox; neither exposure to the variolous effluvia, nor the insertion of the matter into the skin, producing this distemper." Yet, later, this same Jenner appears to have been afraid of the truth. In writing to Dr. James Moore in 1810 he said: "When I found Dr. Woodville about to publish his pamphlet relative to the eruptive cases at the Small-pox Hospital, I entreated him in the strongest terms, both by letter and conversation, *not to do anything that would so much disturb the progress of vaccination.*"—(*Life of Jenner*, ii., 374.)

Thus vaccination was considered at first a protection for life.

A little later we are informed that in order to assure protection it will be necessary to be vaccinated at the age of puberty; and that this would place the favored individual beyond a doubt outside the pale of small-pox contagion.

But Oh! how easily even the "scientific doctor" may be deceived, may arrive at false conclusions. Hence, we find him declaring that inasmuch as the entire system is changed every seven years, it will be necessary to revaccinate that often in order to be secure. Soon he finds again he has made another mistake, and decides that probably every three years would be better. Lastly, we have a class of German physicians who proclaim that to be absolutely secure it is necessary to have at least nineteen or twenty good marks on the person. How absurd!

Now let us look at it under the light of statistics. If we find that those who have been vaccinated and revaccinated have passed through without being attacked, with only very rare exceptions, it will then be time to give vaccination due credit.

According to Dr. Jebb's letter in the London *Times*, November, 1879, there were admitted to the London Hospitals, from 1878 to October, 1879, 15,171 cases of small-pox; of whom 11,412 were vaccinated, or 75 per cent.; and 3,750 were unvaccinated, and for each case treated in the hospitals, says Dr. Jebb, "another was treated privately," making a total of 30,342 cases of small-pox in the city of London in one year or less; 97 per cent. of whose population, according to Dr. Seaton, had been vaccinated.

As to the quality of the vaccination, Dr. Stevens, in December, 1879, said that all his experience led him to the opinion that the arm-to-arm system, practiced in England, was as nearly perfect as a system could be made, and as efficacious as could be desired.

Again Dr. Marson, Resident-Surgeon of the Small-pox Hospital, Highgate, said (*Report* for 1871), in answer to the question: "Do you consider that small-pox itself is as great a protection as vaccination?" "Yes! much greater; there are few cases of persons who have had small-pox after small-

pox; and in the first table which I gave the number was less than one per cent. of small-pox after small-pox; whereas, it was fifty-three per cent. of small-pox after vaccination."

In answer to another question, he said: "When I first went to the hospital thirty years since, from 1835 to 1845, the admission of patients was forty-four per cent. of small-pox after vaccination; from 1845 to 1855, sixty-four per cent.; and from 1855 to 1865, seventy-eight per cent.; and during 1863 and 1864, eighty-three and eighty-four per cent."

These figures alone, it seems to us, should be sufficient to convince almost any one of the absurdity of the proposition that "vaccination is as protective against small-pox as small-pox itself;" or in fact that it is protective at all; since we find that during thirty years the percentage of small-pox cases after vaccination had increased from forty-four per cent. to eighty-four per cent., after ten years of compulsory vaccination, according to Dr. Marson.

While according to Dr. Jebb, seventy-five per cent. of the small-pox cases admitted to the London hospitals from 1878 to October, 1879, after twenty-six years of compulsory vaccination, with ninety-seven per cent. of the population vaccinated, shows clearly that vaccination had not only failed to protect completely, but that *it had done absolutely nothing* to bring the vaccinated people nearer to the one per cent. of small-pox cases after small-pox.

As to the opinions of medical men, Dr. Cameron, M. P., says: "The recurrence in the latest period of a mortality almost as high as that experienced prior to the vaccination act, shows that the protective virtues of vaccination are mythical, or that there is something radically wrong in our national system of vaccination."—(December, 1879).

Dr. Ransome, Professor of Public Medicine and Hygiene at Owen's College, says: "The epidemic of 1871 and 1872, gave distinct evidence of the inefficiency of vaccination as it had been practiced in England of late. Not only had it killed 40,000 persons, as many in fact as in an epidemic before the introduction of vaccination, but it also assumed all the characteristics of an epidemic unmodified by vaccination."—(December, 1879).

Mr. William Young has also furnished a table of the small-pox mortality in London, as recorded by the Register-General, as follows:

Decade of years.	Estimated mean population.	Deaths from small-pox.
1841 to 1850.....	2,103,487	8,416
1851 to 1860.	2,570,189	7,150
1861 to 1870.	3,108,193	8,347
1871 to 1880.....	3,466,486	15,551

Here we observe that while the population has increased about one-half, the number of deaths from small-pox are almost double what they were forty years ago. It is to be remembered that this increase in mortality occurs after twenty years of compulsory vaccination, with an unvaccinated residunm of three per cent.

Is there still a doubt? Let us see what a pro-vaccinator has to say. Privy Councillor Müller, in his *Report on the Small-pox epidemics in Berlin in 1871*, gives the following table:

	Cases of Small-pox in vaccinated children.		Deaths of ditto.		Percentage of Deaths on cases.
Under 1 year,	179		99		50.30
" 2 "	298		127		42.62
" 3 "	295		111		37.62
" 4 "	244		78		31.96
" 5 "	175		69		39.42
Total under 5 years,	1,191	Total deaths,	484	Per cent.,	40.63

Here we have 1,191 cases of small-pox, occurring in children under five years of age, all of whom had been vaccinated, with 484 deaths, giving a death-rate of over forty and one-half per cent. May we not ask in all seriousness and candor: Where is the protection? But probably it will be said, as it has often been: "Had it not been for vaccination, the mortality would have been much greater."

But statistics again relieve us, for if that were true, then the number of deaths from small-pox should decrease; whereas we find the contrary to be the case.

In England for instance, vaccination was made compulsory in 1853, and in the first ten years after the enforcement, namely, from 1854 to 1863, the deaths from small-pox amounted to 33,515; while in the next ten years, from 1864 to 1873, 70,458

deaths resulted from the same cause, or more than double the number of the first ten years. A splendid illustration of how small-pox can be stamped out by vaccination!

"There could not be the slightest doubt," said Dr. Lyon Playfair, M. P., (on July 6th, 1870,) "that compulsory laws, where properly applied as in Scotland and Ireland, were perfectly equal to stamp out small-pox in a country." Yet we find in Scotland and Ireland deaths from variola recorded as follows:

	Scotland.	Ireland.
1870	114	32
1871	1,422	665
1872	2,446	3,248
1873	1,126	504
1874	1,246	569

"In Sweden, quoted as the best-vaccinated country in the world, there died from small-pox in 1874–5, 6,082 out of a population of 4,000,000; while in Bavaria, famous for compulsion, of 30,742 cases of small-pox officially recorded in 1871, 29,429 were supplied by the vaccinated."

"But," says one, "there was an epidemic in Scotland and Ireland in 1872, hence the high rate of mortality." Admitted, but so much the worse for vaccination if it fails to prevent an epidemic; and if during that period, twenty-nine out of every thirty who died from small-pox have been vaccinated, it is evident that vaccination neither protects against nor modifies the virulence of variola; the proportion of the number of deaths of vaccinated persons to the whole number of deaths from small-pox being equal to the proportion of vaccinated persons to the whole population. We must conclude from reasons already given and those we shall now give, that instead of being a blessing vaccination has been a curse to the human race.

Prior to the introduction of vaccination by Mr. Edward Jenner, Dr. Jurin, quoted by Dr. Duvillard, reported in 1723, 18,066 cases; vaccinated, none; deaths, 2,986; percentage of deaths, 16.53. From 1746 to 1763 the London Small-pox Hospital reported 6,456 cases; vaccinated, none; deaths, 1,634; percentage of deaths, 25.30. In 1763 Lambert, quoted by Duvillard, reported 72 cases; vaccinated none; deaths, 15;

per cent., 20.8. And Rees' *Cyclopædia*, in 1779, 400 cases; vaccinated, none; deaths, 72; percentage, 18.0. Here we have a total number of 24,994 cases of small-pox prior to vaccination, with 4,707 deaths, giving an average percentage of 18.83; while Dr. Marson, *Hospital Report*, 1836–51, gives 5,652 cases, of whom 3,094 were vaccinated; with 1,129 deaths, and a percentage of 19.97; while the Metropolitan Hospital gives, 1870–72, 14,808 cases; 11,174 of whom were vaccinated; 2,764 of whom died; or a death-rate of 18.66 per cent. In 1876 they reported 1,470 cases; 338 deaths; or a death-rate of 23.0 per cent. In 1871–77 the Hamerton Hospital (Dr. Gayton) reported 5,479 cases; 4,236 of whom were vaccinated; of whom 1,065 died; or a death-rate of 19.43 per cent. In 1876–80 the Dublin Hospital (Dr. Grimshaw) reported 2,404 cases; 1,956 of whom were vaccinated; with 523 deaths; or a death-rate of 21.7; while in 1876–80, the Metropolitan Hospital (Dr. Jebb) reported 15,171 cases; of whom 11,412 were vaccinated; with 2,677 deaths; or a death-rate of 17.6 per cent. Here we have a total of 44,984 cases; of whom 31,872 were vaccinated; with 8,496 deaths; or a death-rate of 18.8 per cent.

These figures show conclusively: 1st., that before the introduction of vaccinations the percentage of deaths from small-pox was no higher than it is at present. Inasmuch as the deaths in the second division include a large majority of vaccinated persons, demonstration is afforded that vaccination has had no effect in diminishing the mortality.

2d. That small-pox as treated now, and small-pox as treated by the medical men of the eighteenth century, is the same *unmodified* disease. It exacts the same ratio of victims to cases, runs the same course, and is as fatal now as then; and any division by marks, of patients suffering from an eruptive fever, which yields results disapproved by the general result, is unscientific, misleading and erroneous.

These figures also show that the lowest percentage of deaths was reported by Dr. Jurin, prior to vaccination, in 1723, being 16.53 per cent., while it will be noticed that the death-rate after vaccination was introduced is not reported

lower than 17.6 per cent., the average death-rate during fifty-six years prior to vaccination being a fraction of one per cent. greater, however, than for forty-four years after, namely: from 1836 to 1880." Where, we ask, are we to find the protection? Echo answers: "Where, except in the imagination of the pro-vaccinationist?"

But still another question claims our attention. It is this: What are the attendant dangers arising from vaccination?

We find the average yearly deaths per 1,000,000 births in England to be as follows:

	Syphilis.	Erysipelas.	Skin-Diseases.	Pyemia.	Scrofula.	Mesenteric diseases.
Voluntary vaccination 1847 to 1853.	564	817	183		351	2,781
Obligatory vaccination 1853 to 1867.	1,206	781	253	155	611	3,381
Enforced vaccination 1867 to 1878.	1,738	834	343	180	908	4,373

That is to say that while the death-rate of infants, from all causes, is declining, the death-rate from inoculable and therefore vaccinal diseases is increasing.

The following is a list of authenticated cases of transmission of vaccino-syphilis published by Lancereaux:

	Cases.		Cases.
By Cerioli	40	By Troussea	1
" Tassani	46	" Marroni	34
" Surgeon B.	19	" Devergie	1
" Hubner	8	" Chassaignac	1
" Marcolini	40	" Cerard	1
" Viani	2	" Adelasiv	2
" Lecoq	2	" Monell	1
" Galligo	14	" Sebastian	1
" Hutchinson	24	" Collins	2
" T. Smith	1	" Fuqua	52
" Hulke	1	" Cullimore	1
" Oldham	3	" At Rivalta	46
" Depaul	59	" In Algiers	58
" At Lebus	18		
Total			478

Dr. P. A. Desjardin gives full details in *La Science Libre*, No. 21, (including the names) of fifty-eight young men of the 4th Regiment of Zouaves seriously infected with syphilis from

vaccinations performed by the military surgeons at Algiers, December 30th, 1880, according to the French Regulations.

These tables, backed as they are by the opinions of many physicians and scientists both in this country and in Europe, should be sufficient to make physicians stop before they insert into the body of their patients the health-devouring, life-destroying poison known as vaccine virus, whether humanised or bovine.

Dr. Henry May, M. R. C. S., says: "In certificates given by us voluntarily, and to which the public have access, it is scarcely to be expected that a medical man will give opinions which may tell against or reflect upon himself in any way, or which are likely to cause annoyance or injury to the survivors; in such cases he will most likely tell the truth, but not the whole truth, and assign some prominent symptom of the disease as the cause of death.

"As instances of cases which may tell against the medical man himself, I will mention erysipelas from vaccination, and puerperal fever. A death occurred from the first cause not long ago in my practice, and although I had not vaccinated the child, yet in my desire to preserve vaccination from reproach I omitted all mention of it from certificate of death."—(*Birmingham Medical Review*, Jan. 1874.)

Dr. Spinzig, of St. Louis, says: "Vaccination is tantamount to inoculation and constitutes septic poisoning, a criminal offense to health and life, and is statistically proved to afford no protection or mitigating power over small-pox, and scientifically in the nature of the case, it cannot possess any."

Prof. German, M. D., of the University of Leipsig, said in a petition to the German Diet, 1878: "Above all the dire fatality which lately occurred at Lebus, a suburb of Frankfort-on-the-Oder, would alone warrant the abolition of the vaccination laws. Eighteen school-girls averaging twelve years of age were revaccinated, and thereby syphilised, and some of them died. * * Yet the lymph, the syphilitic lymph, used in this case was obtained from the Official Royal Establishment for the new 'regenerated' or 'animalised' vaccine-lymph so warmly recommended for the revaccination of schools."

Dr. Heim, Public Vaccinator, Wurtemburg, says that the most expert diagnostician will not be able to detect dyscrasy in children of the vaccination-age, and that he himself has transplanted syphilis from a child which seemed to be perfectly healthy.—(*Horrors of Vaccination*, p. 26.)

And still with all this evidence and thousands of other cases that might be adduced, we have multitudes of physicians who advocate it, and who advocate compulsory vaccination. In fact, we almost have compulsory vaccination already, for in many places children are not allowed to attend school unless vaccinated. Emigrants coming to this country, some of whom have left the land of their birth because of the tyranny and oppression, and for the purpose of avoiding the evils attending vaccination, are compelled to submit their dear little ones, as well as themselves, to the poisonous lancet and still more poisonous virus of the vaccinator before they are allowed to put their feet on the soil of this boasted land of freedom.

NECROLOGY.

The mortuary record, since the publication of our last volume, has but four names; but the individuals were men of note and characterised by great activity. It will be years before their places will be made good. Yet such is the order of things; and if we knew and understood it well, we would perceive it best for each and for all. All of a man does not live in the walls of a corporeal structure; the real man is far more than that. *Pax illiscum.*

DR. HORATIO E. FIRTH.

The death of Dr. H. E. Firth was duly reported to the National Association by his neighbor and long-time friend, Dr. D. E. Smith, of Brooklyn, who gives the following sketch of his career:

Horatio E. Firth was born at Salem Court House, New Jersey, in 1824. He graduated in medicine at the Pennsylvania Medical University, Philadelphia, and became a resident of Brooklyn about 1852. He entered at once into active practice and was very successful as a physician. From this time onward he was closely identified with the history of the Eclectic School in Eastern New York and in the State. The Brooklyn Academy of Medicine was organised in 1855. Dr. Firth took an active part and was several times its President. He also participated in the organisation of the Eclectic Medical Society of the State of New York at Albany, in 1863; and of the National Eclectic Medical Association at Chicago, in 1870.

Dr. Firth was a prolific writer. The Eclectic Society of New York was the first to publish printed volumes of *Transactions*, and he was a regular contributor. Many of his papers excited much interest outside the Eclectic School: and his *History of Eclecticism in the State of New York*, published in 1879, preserves a large amout of valuable historical matter that would otherwise have been lost. In 1880 he was chosen President of the Society. Since that time though he abated none of his interest in the matter, but was ready with pen and effort as ever, he seems to have flagged somewhat in physical strength.

He has also some claim to be ranked as a discoverer; at least, he made some new studies of known remedies and ascertained other uses for them. He was the first to employ the tincture of Veratrum in puerperal convulsions. He had no superior in obstetric practice, and his counsel was often sought in difficult cases. In the former period of medical proscription, the endeavor was made in Brooklyn to consign all bodies of persons to the Coroner, who had died when attended by Eclectics. Dr. Firth promptly visited the officious official and gave him a brief lecture which proved the last of his nonsense.

He held the office at different times of trustee both in the Metropolitan and the Eclectic Medical Colleges of the city of New York, resigning from the latter in 1873. He was was a Curator in the United States Medical College at the time of of his death. He always recognised that a man owed his service to his profession to add to its usefulness, and worked up to his conviction.

Dr. Firth was married in 1847 to Miss Elizabeth Weston, the daughter of a physician in Philadelphia, by whom he was the father of fifteen children. Mrs. Firth graduated in medicine at the Eclectic Medical College in 1872, and is a successful practitioner. Ten of their children are still living.

During his last illness he was visited by members of the medical profession of every School, showing not only his excellent standing, but the fact that he had lived down animosity. His death took place June 4th, 1883, in his 59th year. The complaint was scirrhus of the pylorus. Dr. Firth had

been a member of the Masonic Fraternity, the Sons of Temperance and of the Independent Order of Odd Fellows. His funeral was celebrated at the De Kalb Avenue Methodist Episcopal church, to which he had belonged for many years. It was attended by friends from other States, seventy-five and one hundred miles away. The beneficiary orders also paid honors on the occasion. Thus a good and deserving man has passed away from among us.

DR. S. H. POTTER.

The death of Dr. Potter leaves a conspicuous vacancy in the ranks of Eclectic practitioners. He belongs to the former days of distinctive Eclecticism, when Morrow, the Joneses, as well as John King and Dr. J. R. Buchanan were the representative men. Possessing a mercurial temperament and great ambition, as well as elasticity of disposition, he was closely identified with the medical history of that time.

Stephen Hollister Potter was born in Cortland county, New York, November 10, 1811. He was the son of Stephen Potter, one of the pioneers of that region, and grew up on his father's farm. In March, 1833, he became the principal of the high school or academy at Canandaigua, remaining there till July, 1835. During this period he employed his leisure in reading medicine, under the direction of Dr. E. B. Carr. He then went to Olean and finished his preparatory study with Dr. E. B. Finn, his brother-in-law. In September, 1837, he entered college, remaining six months, when he received his degree. Much as is said, and much of it justly, in regard to this graduating of students on brief courses of lectures, it seems not to have been uncommon in former times ; besides the fact that a very large proportion of medical men then in active practice had never seen a college or studied books very critically.

Doctor Potter immediately took up his residence at Canal Winchester, in the Scioto Valley, where he remained till December, 1844. His father was then prostrated by palsy and he returned to Cortland county, making the homestead his centre of action. He did not, however, remain there. His early familiarity with Prof. T. V. Morrow, had excited a

zeal also to become a pioneer in the New School of Practice.* He practiced medicine for a season at Randolph, N. Y., in partnership with Dr. Charles J. Kenworthy, and opened a medical school to fit students, who were to be graduated at the Eclectic Medical Institute in Cincinnati. He and Dr. Kenworthy edited a medical journal. About the same time Dr. Orin Davis and others had opened a school of about the same grade and character at Fredonia. It was judged best a year later to unite forces. At this time an act had passed the Legislature to enable the incorporation of benevolent, charitable, religious and scientific societies. Hon. Daniel Pratt, of Syracuse, since Comptroller, was then Justice of the Supreme Court in the Fifth District, and granted consent to establish the Central Medical College at Syracuse. Good jurists at that time in every part of the State believed such incorporations valid; and since that period no less than five medical colleges, besides Syracuse University and its medical department, and the Central College at McGrawville, have been so legalised by competent and able judges. The Central Medical College having been thus established, Doctors Potter and Davis and

* In a letter to me, Dr. Potter stated in reply to an enquiry, that he first suggested the name of *Eclectic* as the designation of the Reformed Practice. He was at the time, he said, riding out with Prof. Morrow, in 1843 or 1844, when the subject of a name was canvassed. I am reluctant to question this; yet two facts seem to militate against the plausibility of the statement. Dr. Potter was not a classical scholar, and a person not pretty well versed in such knowledge would hardly be likely to choose such a term. Again, Prof. Morrow himself bore the name of *Thomas Vaughan*, an Eclectic philosopher of the seventeenth century. Originally the Eclectics comprised the philosophers of Alexandria, and Galen himself was identified with them. In later centuries, various individuals sprung up in Europe, to whom the designation was sometimes given. Thomas Vaughan was one of these. I have never been able to learn that the late Prof. Morrow was in any way akin to him, or had his peculiarities even; but I would be much gratified to know, as to me it would present much significance.—A. W.

Since writing this, the following explanation has been given to the public by Professor Joseph R. Buchanan:

"The profound ignorance of American Eclecticism and Homœopathy among the graduates of fashionable 'regular' colleges would be amusing, if it were not so sad a perversion of a noble profession. The words *Eclectic* and *Eclecticism* were originally adopted at Cincinnati in the parent school, the Eclectic Medical Institute, upon the suggestion of Mr. Calvin Fletcher of the Board of Trustees, and the charter had been procured under that name [in 1845] before I had united with the Faculty."

their friends called a State Convention which organised the first New York State Eclectic Medical Society. Dr. Potter became president, as well as dean of the new college. One session, however, was all that the two chiefs could abide together. Dr. Davis and the major part of the Faculty removed to Rochester and chartered the Central Medical College anew. They also transferred thither a part of the State Society. Dr. Potter remained behind, and in the fall of 1849 obtained from Judge Pratt his consent to file the certificate of incorporation of the Syracuse Medical College. He also established *The Syracuse Medical and Surgical Journal*, in form and style like its namesake in Boston.

The same year the Eclectic Medical College of Pennsylvania was incorporated by act of Legislature, and Dr. Potter became its Professor of Surgery. He delivered one course of lectures there in 1851 and then resigned. It required more than college-fees to make a living and pay travelling expenses, and Dr. Potter had a very numerous family. His parents were both dead and he was on the high road, full of devices and enthusiasm to make his own way. The principal peculiarities of the college at Syracuse were the frequent changes in teachers, who generally found it more lucrative and agreeable to get away, and the facility, too common then everywhere, almost, by which a degree was obtained. One season, a professor named Flattery procured a large supply of the diplomas and peddled them off far and wide in the State of New York and Upper Canada. Dr. Potter, however, disowned his action. It is not so easy, judging candidly and impartially to blame these purchasers or even to speak of them with contempt. The possession of a diploma was regarded like a commission in the army; the mode of obtaining it was not so much to be regarded as the authority conferred. It was the day of diploma-mills. The conferring of degrees for money had been a common practice in Europe for centuries, indeed it was a characteristic of colleges from the start, and their history is brim full of it. Jenner, the apostle of vaccination, was doctor solely by virtue of a purchased diploma. Old-School colleges thirty years ago were selling their degrees freely; and an

establishment in the city of New York, furnished the article to order. The business was in full blast long before John Buchanan's day; and there is good reason to believe that it is regularly carried on at the present time. The monopoly may have been disturbed, but little more.

In 1852 the Central Medical College abandoned the field and united again with the institution at Syracuse. Dr. Calvin Newton came from Massachusetts to help the enterprise. One session, however, was all that he would give. Finally the building was burned and the college came to an end. There was not money to carry it on. Its graduates, many of them, are still in our ranks and excellent physicians.

Doctor Potter then removed to Cincinnati and became a professor in the American Medical College. His fluent speech, attractive address and sanguine temper were excellent qualities to begin a college with. He was an organiser by nature, and believed in organic bodies as a means of success. After two or three years the college coalesced with its rival, and Dr. Potter removed to Hamilton, Ohio, where he continued to live to the time of his death. He aided at the reorganisation of the National Association at Chicago in 1870, and also at the establishing of the American Medical College at St. Louis, which now hold a deservedly high rank in the profession.

He was Vice-President and Corresponding Secretary of the National Association; and held the office four times of President of the Ohio State Eclectic Medical Association. He was so many times the Secretary that it is not easy to enumerate them. He helped form the Miami District Eclectic Medical Society and was generally its president. He also held several political offices in the city and was health officer.

Doctor Potter was prolific as a writer on medical topics. He edited no less than five or six journals; was a frequent contributor to others up to the last; and his *Compendium of Medical Practice* went through several editions. He could not well keep still. He was four times married, and had a numerous offspring; several of them were of much promise. Impulsive to an extreme, he did not hesitate when others would be careful. When in Syracuse, the arrest of the negro

Jerry took place, October 1, 1851. It was an occasion of great excitement; the county fair was being held, but the affair of the fugitive absorbed every man's attraction. The Government was endeavoring to treat attempts at rescue as treason to be capitally punished. Gerrit Smith, Rev. Samuel J. May and others were intimidated by this and pleaded for submission. Thomas G. White, W. L. Crandal and others organised a rescue. Jerry was delivered and kept a week in Syracuse. Dr. Potter then carried him off to Lake Ontario in his own carriage, and though many knew it, the authorities never found him out. Curious as it may seem, Charles B. Sedgwick, two years later, did not scruple to assail him in very offensive language.

The last years of Dr. Potter's life were spent in Hamilton where he was very pleasantly situated. He had a great share of public confidence, was always active, and seems to have enjoyed a prosperity to which he had been a stranger in his native State. He had been a Baptist at the East; but in his later years be affiliated with the Universalists. He was well adapted for a pioneer; though of the temperament and disposition which many of us are prone to find fault with. He made his mark, and will not be soon forgotten.

M. M. PRENTISS.

The death of Doctor M. M. Prentiss took place at his late residence, Rushville, Illinois, October 13, 1883. Doctor Prentiss became a member of the National Association at its annual meeting in Springfield, Ill., June, 1875. He was also a member of the Illinois Medical Society, and was a physician of much merit. He had been unwell for some time, and died from internal hemorrhage.

P. D. YOST.

Do thy work; it shall succeed
In thine or in another's day;
And if thou miss the victor's meed,
Thou shalt not miss the toiler's pay.

Permetus D. Yost was born in Marion County, West Virginia, February 11th, 1842. He was the son of Dr. Nicholas

Yost, whose death ten years later left him an orphan. He possessed great energy and determination, acquiring a liberal education by his own unaided efforts. He first became teacher and then editor of the Marion County *Independent*, filling both vocations ably and acceptably. Deciding however to be a physician, he entered upon a regular course and graduated at the Eclectic Medical Institute in 1865. He became a regular practitioner immediately afterward at Mannington, West Virginia; soon acquiring prominence as a physician and a man of liberal knowledge, and for his zealous efforts for the well-being of the community in which he lived.

He removed to St. Louis in 1873 and aided in the establishment of the American Medical College. He held the position of Secretary of its Board of Trustees and Professor of Obstetrics till his death. He was endowed with great public spirit, earnestness and perseverance, as well as with the gentlest of dispositions; and as a result was one of those who are always called upon for every conceivable purpose to render service in this and that, and to hold all manner of trusts. Nor did he ever prove unworthy of confidence. He was a member of the Methodist Episcopal church, and an active worker in the Sunday school and other departments of church labor. He belonged to the Masonic Order and several other benevolent associations. He seemed to omit no opportunity to work, and yet was more disposed to retire from them than to court prominence.

Dr. Yost became a member of the National Eclectic Medical Association at its annual meeting at Indianapolis in 1873, directly after his removal to St. Louis. He seldom took part in debates, but was carefully watchful of the proceedings. He detested ostentation and presumptuous ignorance, and favored a vigorous enforcement of discipline. It was on his motion that Doctors Filkins and Hole were expelled from the Association, though he took no part in their prosecution. At the annual meeting in Topeka, in 1883, he was, by the appointment of President Howe, the Chairman of Section C—Obstetrics and Gynæcology; and the present volume of the *Transactions* affords evidence of his efficiency and abundant

justification of the wisdom of his selection. His own paper was admirably written and suggestive of most important topics in physiological science; and the discussion which it elicited was one of the most interesting that was entertained. The other papers, most of them possessing much merit, were contributed at his personal solicitation. Thus he always did his work well and thoroughly.

In addition to this he, of his own accord, suggested and carried into effect the arrangements for an excursion of the members of the National Association to Baxter Springs in the southeastern corner of Kansas. The newly-elected officers, ex-Presidents Munn and Duncan, Doctors Gemmill, Butcher, Reichard, Pitzer, Jay, Pruitt, Durham, Lynch, and other prominent Fellows, with their wives, took part; and so admirable were the appointments that everything went off without a misadventure. The general hilarity, the friendships then cemented, and the good time enjoyed, made the occasion memorable. Only the master himself was the sufferer. The party visited the Modoc Settlement in the Indian Territory, where among other things a meeting was organised, addresses were made by medicine men of both tribes, and several original songs were chanted. Doctor Yost had the misfortune to sprain his ankle and was unable to return with the others. All bade him good-bye with heart-felt regret at parting so soon; a meeting was called at the Baxter Springs Hotel and resolutions adopted of warm acknowledgement. It was his hour of triumph. He was at the height of his popularity. The failure to elect his colleague, Dr. Younkin, President of the Association, in 1881, had greatly disappointed him; now that wish had been realised and he seem to enjoy it above his own successes.

He had been appointed by the Governor a member of the State Board of Health of Missouri, and was chosen its Treasurer. He was also a member of its Committee on Regulations and had been successful in securing the proper recognition of Eclectics on an equal footing with other physicians in the State.

The parting at Baxter Springs was as a separating of life-

long friends; but none suspected that it would be final. All looked to a joyful reunion in 1884. Dr. Yost returned home a few days afterward and was engaged at once in laborious practice and the organising of the new Board. He was not robust and the signs of enfeeblement were conspicuous. He did not succumb however till the ninth of August. He then was prostrated by typhoid fever. His colleagues were as loyal to him as he had been to them. Doctors Pitzer, Younkin and Merrell gave him their daily attention and were confident of a favorable issue. He nevertheless had no such hope. He was totally exhausted, he would insist; the recuperative energy was spent and he was certain to die. He never faltered in this belief. He even provided for the funeral services, selecting clergymen to attend, etc. On the afternoon of the 16th he was suffering, as fever-patients so frequently do, from the feeling of privation of respirable air, and besought his attendant to open the windows in the several rooms. As she was engaged at this, the sense of suffocation came upon him so unendurably that he left his bed and hastened to the window. Putting out his head he lost his balance and fell out, a distance of seventeen feet, striking flat upon the side-walk and receiving the full shock upon the stomach. It was fatal. Two policemen brought him in and laid him upon the bed; the physicians were summoned, but to no purpose. He never spoke again, and in half an hour he ceased to breathe.

His funeral was conducted as he had directed. The principal clergymen assisted, and the oldest citizens were present. The Masonic Order performed part of the rites; the College, State Board of Health and City Government being represented by pall-bearers. The animosities peculiar to the medical profession and always disgraceful to scientific men, were totally absent; physicians of every school rendered honor to the remains of their departed brother. The eulogy of the officiating clergyman, Dr. Tudor, described him as a man of gifts, talents and parts of no ordinary character; enquiring in every field, dipping into every kind of knowledge. Morally, he was industrious; there was not an indolent nerve in his whole body; perhaps he labored too hard and undertook

too much. He was amiable, loving and to be loved, gentle as a woman, upright, with strict regard for truth and probity, public-spirited. He was such a gentleman as is described in the Fifteenth *Psalm*. Socially, what a friend, what a brother he was! He would spring half out of his carriage to salute a friend and give a warm grasp of the hand that was refreshing. It did one good to hear him address his wife, and he had educated his son up to be a perfect man. His hospitable door was ever open and his table spread and free. Professionally, he was the type and living representative of that benevolence which characterises the true physician. He was skillful; he had a large practice and was devoted to it.

The interment of the body took place at the Bellefontaine Cemetery, with the rites of the Masonic Order.

Perhaps no man who has dropped out of our ranks to join the majority, has been more sincerely lamented than Professor Yost. He had just begun an honorable career which promised reputation and great usefulness; he was one of those diffident, faithful, kind-hearted men that children take to instinctively; and his estimable qualities had just become generally known to his professional brethren. Many who had met him at the meetings of the National Association declared with much emotion, when the news of his untimely fate was announced to them, that the death of such men left the world, as it were, lonely and dispeopled of its true men, and that much of the charm of our annual gatherings had gone with him. While we may justly believe and trust that the earth is not so blank and destitute of good men, but that they abound in such numbers as to make life desirable and enjoyable, it must be added that a most noble and worthy life has been withdrawn from among us at the very hour that it was most highly appreciated.

NATIONAL ECLECTIC MEDICAL ASSOCIATION,

1883.

NAMES OF MEMBERS.

The roll has been duly revised from the latest information in the possession of the Secretary. By Article VIII. of the By-Laws it is prescribed that the omission to give notice of residence to the Secretary, or to pay annual dues for two years, shall be equivalent to a surrender of membership; but such members may be restored to full rights on payment of all arrearages. The President and former Presidents are named in SMALL CAPS.

Adams, William L.	Hazardville, Conn.	1874
Alcott, Ralph W.	Avon, Conn	1882
Andrews, George	New Haven, Conn	1883
Antle, F. P.	Petersburgh, Illinois	1880
Anton, James	Lebanon, Ohio	1872
Anton, Mrs Rebecca V.	Lebanon, Ohio	1872
Arter, Daniel A.	Greensburg, West Moreland Co., Penn	1877
Ault, Robert B.	Irving, Illinois	1881
Bailey, Leonard	Middletown, Connecticut	1882
Baird, William	Barnesville, Kansas	1881
Baker, Vincent A.	Adrian, Michigan	1870
Band, Charles	Crete, Nebraska	1878
Bare, J. S.	Henderson, Michigan	1880
Barker, William	122 Adelphi street, Brooklyn, N. Y.	1871
Barker, W. E.	Chanute, Kansas	1883
Bates, David	Fort Branch, Indiana	1880
Bayne, William F.	Macomb, McDonough Co., Illinois	1870

Beam, Lemon T.....Box 574, Johnstown, Penn. 1877
Beam, William C... .....Johnstown, Penn.....1878
Biles, William P.....Union City, Erie Co., Penn.....1883
Bixby, Aaron W.....Watsonville, California.....1880
Blackman, Edson.....Quincy, Michigan..... 1876
Bolles, Henry A.....Cortland, N. Y..... ...1879
Boots, Samuel S .....Greenfield, Indiana.....1881
Borden, Davis P.....Paterson, New Jersey.. 1876
Borden, Lefaver H.....Paterson, New Jersey 1871
Borland, J. R.....Oil City, Pennsylvania.....1873
Boskowitz, George W.....111 East 25th street, New York City. 1882
Bostick, Charles H.....Manton, Michigan.....1879
Boyer, Samuel B.....Delphos, Ottawa Co., Kansas... 1883
Briggs, James E.....126 West 11th street, New York.....1877
Brigham, L B.... .....Aurora, Illinois 1880
Brockway, Theodore.....Box 173, New Hartford, Conn 1882
Bunn, James M.....New Washington, Clearfield Co. Penn1883
Burhans, William M.....Fairfield, Conn..... ..... .1883
Butcher, John C.....Urbana, Ohio.....1878

Campbell, Mrs Anna B.....Indianapolis, Md..... ...1881
Cannon, James.... .....Iosco, Livingston Co., Michigan.....1878
Carr, Solomon S.....Buffalo, Dallas Co., Missouri.....1883
Carter, Sidney S.... 1878
Cashman, David A..... ..243 State street, Chicago, Illinois 1882
Chaney, George C .....Independence, Montgomery Co., Kan.1881
Chase, Daniel A.....Cambridge, Washington Co., N. Y...1874
CLARK, ANSON L..... 511 State street, Chicago, Illinois... 1870
Clark, Byron..... ..... 1 Livingston Place, New York City. 1882
Clark, Nehemiah H.....Topeka, Kansas.... 1883
Cleland, Thomas.....354 West 22d street, New York.....1883
Clyde, M. S.....Mount Olive, Illinois.....1881
Coe, George D ....Kirksville, Adair Co., Missouri. 1883
Cohen, Maurice R .....Kansas City, Missouri.....1883
Congreve, James M.....Wappinger's Falls, Dutchess Co., N. Y1880
Conklin, A.... .....Manchester, Michigan.....1872
Conklin, Ebenezer M.....Tecumseh, Michigan 1878
Cooke, Clarence B.....Danbury, Connecticut.....1882
Cormack, Allen W.....Fredonia, Wilson Co., Kansas.....1881
Cormack, Wesley A.....Carthage, Missouri.... 1880
Covert, George... .....Clinton, Wisconsin..... 1876
Crafts, R. S..... .....Blue Rapids, Kansas.....1882
Crawford, Ralph B.....Wayne, Wayne Co., Nebraska.....1883
Crosby, Ezra.....Minneapolis, Ottawa Co., Kansas....1883
Curryer, William F.....Thorntown, Indiana.....1879

Daniels, Charles J.....Findley Lake, Chautauqua Co., N. Y.1877
Darman, Miss Emma A.....1824 Camac street, Phila., Penn.....1882
Darman, William.....1824 Camac street, Phila., Penn.....1882
Davis, W. Hope.....Springfield, Illinois.....1880
Day, George H.....15 East 59th street, New York.....1880
Day, Miss Louise.....243 State street, Chicago, Illinois....1882
Deichmann, Frederick W..Forestville, Conn.....1881
De Ross, David E.....Corry, Pennsylvania.....1878
Dice, James P.....Xenia, Ohio.....1883
Dickerson, Jacob.....Brighton, Macoupin Co., Illinois. ...1881
Doss, Judson I.....Pittsfield, Illinois.....1881
Douglass, Robert P.....Burlington, Kansas.....1883
Duff, Joshua B.....193 Clark street, Chicago, Illinois....1881
DUNCAN, JOSEPH R..... Crawfordsville, Indiana.....1870
Dunlop, Clark W..... 18 Hanson Place, Brooklyn, N. Y....1882
Dunning, Isaac R.....Benton Harbor, Michigan..... ...1881
Durham, William M.....Atlanta, Georgia.....1882
Duszowski, Henry W.....194 Second avenue, New York City..1882

Ellerson, Ozias.....Empire City, Clear Creek Co., Col...1880
Else, David W.... .....Concordia, Cloud Co., Kansas ..... .1883
Ewing, C. M.....Tyrone, Blair Co., Penn.....1883

Falken, Alexander E. E....Newark, N. J..... 1882
Fisher, Samuel B..... ....Rossville, Christian Co., Indiana.....1878
Fisk, Francis H.....Olney, Richland Co., Illinois.....1881
Fisk, H. Ingersoll..... ....Guilford, Connecticut.....1879
Flippin, Charles A.....Hillsborough, Marion Co., Kansas ...1883
Flower, P. D.....Albion, Erie Co., Penn.....1879
Foote, Edward B..... ....120 Lexington avenue, N. Y. City....1873
Fortiner, George R.....542 Federal street, Camden, N. J.....1882
Forster, Andrew P.....Fort Scott, Bourbon Co., Kansas.....1882
Foster, Lafayette M.....Morrill, Brown Co., Kansas.....1883
Frazee, Lewis (honorary)...Perryville, Indiana.....1881
Furber, John Loring.....Apanoose, Franklin Co., Kansas.....1880

Galbreath, R. L .....Glenwood, Schuyler Co., Mo.....1881
Gallup, Charles N.....Columbia, Conn..... 1883
Gamble, William J.....Mosiertown, Crawford Co., Penn 1877
Gates, William.....Carthage, Missouri..... 1880
Geddes, R. W.....Winchendon, Mass.....1871
Gemmill, William T..... ...Forest, Hardin Co., Ohio.....1879
Gerald, Francis L.....Hyde-Park, Mass 1873
Gere, George G.....120 Post street, San Francisco, Cal...1881
Gibbs, Aaron L.... .....Hope, New Jersey.....1883

Gillespie, David M.... ....Salina, Saline Co., Kansas.....1883
Gleason, Horace F.....Box 118, Townsend, Mass..... 1882
Goodale, J. R.....Pawtucket, Rhode Island.....1871
Goodenough, J.....Clarkston, Oakland Co., Mich.....1871
GREEN, MILBREY.....1 Columbus Square, Boston, Mass....1874
Greenleaf, Carlos T. .....Brewerton, Onondaga Co., N. Y 1882
Gridley, Frank D.....Whitney's Point, Broome Co., N. Y..1871
Grinnell, J. L.....Peabody, Marion Co., Kansas.....1882
Griswold, Charles E.....412 Gold street, Brooklyn, N. Y.....1879
Grover, Lewis P.....228 Leonard st., Brooklyn, E. D., N. Y.1882
Gunn, Robert A.....45 East 22d street, New York.....1870
Gurney, Seneca de F.....Palmer, Washington Co., Kansas....1883

Haines, Alfred C..... .Columbus, New Jersey.....1882
Hansen, C. A.... .....Argyle, Wisconsin 1881
Harding, Charles L.....Nunda, Livingston Co., N. Y.....1878
Hargreaves, William.....2725 N. Front street, Phila., Penn....1882
Harris, Thomas L.....Cazenovia, New York.....1881
Harrison, Wallace K.... ..126 State st., (Room 5) Chicago, Ill...1880
Harshberger, W. Frank.....New Albany, Penn.....1883
Hathaway, Robert W.....334 Monroe street, Chicago, Ill 1870
Hattan, A. H. .....Henry, Marshall Co., Illinois.... 1881
Hawley, William H.....Penn Yan, Yates Co,, N. Y.....1878
Hawley, Jr., William H.....Dundee, Yates Co., N. Y.....1880
Hayden, William R.....Bedford Springs, Mass.....1870
Hector, C..... .....Rochester, Indiana.. 1880
Heil, Charles P. .....Indianapolis, Indiana..... 1883
Hewitt, George D.... .....Carthage, Jefferson Co., N. Y..... ..1879
Hewitt, Samuel C.....Chatham, Illinois.. 1880
Hildreth, H. A.....Lisbon, New Hampshire.... 1876
Hirsch, Robert F..... .....Ulysses, Nebraska.....1882
Hitchman, Wm. (honorary).46 Pembroke Place, Liverpool, Eng..1876
Hobson, William H.....Irving, Illinois..... 1880
Hodge, Thomas S.....Cornwall Bridge, Connecticut.... ...1882
Hodgkins, N. Dwight.....Rocky Hill, Connecticut 1882
Holmes, Marshall H.....Waterville, Maine.....1882
Horton, Levi .....Avoca, Steuben Co., N. Y.... 1882
HOWE, ANDREW JACKSON. 4th street cor. Main, Cincinnati, Ohio1872
Howes, Pitts E.....491 E. Broadway, South Boston, Mass1883
Hudson, James B..... ..Columbus, Indiana.....1883
Hulbert, Joel C.....Avon, Livingston Co., N. Y.. 1871
Hull, George E.....Carthage, Jefferson Co., N. Y.....1883
Hutchinson, John A.....Patchogue, Suffolk Co., N. Y.....1880
Hyde, George W.....Clinton, Dewitt Co., Illinois.....1881

Ingraham, Sereno W.....204½ South Clark street, Chicago, Ill1878

Jacobs, William.....Washington, Washington Co., Kansas1880
Jay, Milton... ....513 State street, Chicago, Illinois....1870
Jeançon, J. A.....Newport, Kentucky..... 1879
Jewett, Jr., Amory.....Hubbardston, Mass.. 1881
Jewett, Nathaniel..... ..Ashburnham, Mass.... 1871
Johnson, Ira T.....Orange, Mass..... 1880
Johnson, John G.....Wellfleet, Mass.....1882
Johnson, Levi D.....Oskaloosa, Iowa.....1883
Jones, Edward T.....Walden, Orange Co., N. Y. 1881
Jones, J. Harvey.....New Lancaster, Kansas.... 1883
Jones, T. Hodge.....Lamar, Barton Co., Missouri.....1881
Jones, William. .....Newburgh, New York.....1870
Judd, Samuel S.....Janesville, Rock Co., Wisconsin 1880

Kalb, Joseph C.... .....Henry, Marshall Co., Illinois 1880
Kaye, John.....Philadelphia, Penn..... 1882
Keeler, William M.....Concord, Michigan.....1878
Kernahen, T. C.....11 Silver street, Philadelphia, Penn..1882
Kernodle, Harvey G.... ...Independence, California.....1881
King, James W..... .....Bridgeport, Conn 1878
KING, JOHN .....North Bend, Hamilton Co., Ohio.....1872
Kirby, H..... .....Osage City, Osage Co., Kansas.....1882
Kirkpatrick, George.....LaHarpe, Illinois 1870
Kugler, James S.....Sharon, Mercer Co., Penn.....1883
Kughler, G. D. .....Greenville, Mercer Co., Penn 1879
Kunzê, Richard E .....606 Third avenue, New York 1871

Ladd, Moses B.....Oneida, Madison Co., N. Y.... 1883
Laflin, Harvey B.....LaCrosse, Wisconsin..... ...1880
LATTA, WILLIAM S.....133 South 11th street, Lincoln, Neb..1878
Leete, Isaac Palmer.....Suffield, Connecticut.....1882
Lemon, James..... .....Mound Valley, Labette Co., Kansas..1883
Lesh, Daniel.....Indianapolis, Indiana.....1881
Lewis, Jacob F.....Howard, Elk Co., Kansas.....1882
Lewis, John V.....Alliance, Ohio..... 1878
Lewis, Levi... .....Charlevoix, Michigan.... 1883
Lindorme, Carl A. F.....Fort Reed, Orange Co., Florida.....1882
Linquist, Maurice F.... ...122 Olive street, New Haven, Conn..1872
Linsley, Charles C.....Burnip's Corners, Michigan 1883
Lloyd, C.....Lynn, Massachusetts..... 1881
Lock, F. J.....16 Jefferson street, Newport, Ky.....1873
Long, Henry.....24 South 6th street, Terre Haute, Ind 1871
Lownsbury, Charles F.....Navarino, Onondaga Co., N. Y.... ..1871
Ludington, Linus S.... ....195 Arch street, New Britain, Conn..1882
Lynch, Robert F.....Princeton, Minnesota.... 1883

McClanahan, J. C.....Boonville, Missouri.....1879
McClearn, Matthew.....206 Tremont street, Boston, Mass....1871
McCurdy, Columbus.....Vermont, Fulton Co., Ill.....1881
McDonald, J. H.....Worden, Madison Co., Ill.....1883
M'Kee, David B.....Hutchinson, Reno Co., Kansas.....1881
McKlveen, J. A.....Chariton, Iowa.....1870
McLaughlin, J. T.....Springfield, Ohio.....1878
McMaster, Hamilton S.....Dowagiac, Michigan.....1881
McMullen, William.....Burlington, Kansas.....1881
Madden, William P.....Cedarville, Ohio.....1879
Markley, Samuel C.....Lowville, Lewis Co., N. Y.....1881
Markt, Constantine.....Hamilton, Ohio.....1872
Marston, Andrew J.....Worcester, Mass.....1879
Martin, Edward.....Plainwell, Allegan Co., Michigan....1883
Martin, N. R.....Sacarappa, Maine.....1871
Martin, Samuel E.....Topeka, Kansas.....1881
Martin, William C. E.....Greenville, Penn.....1878
Matney, William D.....Harvèl, Montgomery Co., Ill.....1881
Maxon, F. C.....Chatham Village, Columbia Co., N. Y 1881
Merkel, G. Hermann.....86 Boylston street, Boston, Mass....1874
Merrell, Albert.....2346 Chestnut street, St. Louis, Mo..1875
MILES, C. EDWIN.....126 Warren street, Boston, Mass.....1871
Miles, T. Willis.....Denver, Colorado.....1883
Miles, Mason M.....Aurora, Illinois.....1870
Moore, Edwin S.....Bay Shore, Suffolk Co., N. Y.....1879
Mosher, B. R.....Kinsley, Edwards Co., Kansas.....1882
Mulholand, John M.....Pittston, Penn.....1878
MUNN, STEPHEN B.....Waterbury, Connecticut.....1870

Newton, Horatio G.....354 Tremont street, Boston, Mass....1871
Newton, Robert S.....19 East 32d street, New York City...1876
Nicolay, William J.....Minier, Tozewell Co., Ill.....1883
Nims, William W.....Warren street, Syracuse, N. Y....1883
Nivison, Mary C.....Scranton, Penn.....1877

Olin, Henry.....126 State street, Chicago, Ill.....1879
O'Neal, J. F.....Florida, Illinois.....1881
O'Neale, L. P.....Mechanicsburg, Penn.....1876
Owen, Reuben H.....Haverstraw, New York.....1881
Owens, Henry.....Wichita, Sedgwick Co., Kansas.....1883

Paaren, N. H.....Box 326, Chicago, Illinois.....1881
Palmer, E, Lee.....Noble, Richard Co., Illinois.....1881
Park, Anna F.....517 West 23d street, New York City.1881
Parker, Henry.....Berea, Cuyahoga Co., Ohio.....1872

Patee, E. L.....Manhattan, Riley Co., Kansas 1882
Pease, Byron W,.....Thomaston, Connecticut.....1882
Perrins, John... .....670 Shawmut avenue, Boston, Mass..1874
Perrins, William A.....691 Park street, Boston, Mass 1883
Phelps, Lovisa J.....43 East Jefferson st., Syracuse, N. Y..1882
Piper, Henry B .....Tyrone, Penn.....1878
Pitzer, George C.....1110 Chambers st., St. Louis, Mo.....1873
Pond, Frederick L.....Aurora, Illinois.....1880
Potter, George E.....Johnston, Penn.....1879
Potts, Charles N.....New Bremen, Ohio..... 1879
Povall, Henry.....Mount Morris, Livingston Co., N. Y.1878
Price, V. Clarence.....Waukegan, Illinois..... 1870
Pruitt, John.....Russellville, Pope Co., Arkansas.....1881
Purdie, A. J. N.... .....Otselic, Chenango Co., N. Y..... 1883

Read, John Andrew.....Tecumseh, Kansas.....1883
Reed, Peter W.....Port Huron, Michigan.....1878
Reichard, Albert.....Paola, Kansas.....1883
Reichard, George W..... New Moorefield, Ohio.....1873
Reid, Hiram A.....Des Moines, Iowa.....1883
Reid, James A.....Davenport, Iowa..... 1880
Reid, Robert A.....Newton, Massachusetts.....1882
Reynolds, John W.....Stuart, Guthrie Co., Iowa..... ...1881
Ripley, Edwin M.....Unionville, Connecticut... 1879
Robinson, Morton.... .....247 Mulberry st., Newark, N. J.....1882
Roe, Jr.. Silvester.....Wappinger's Falls, Dutchess Co.,N.Y.1882
Rolph, Stephen M.....Belle Plaine, Sumner Co., Kansas....1882
Russell, Lorenzo E.....Springfield, Ohio.....1879
Ryan, James E.....Room 15, cor. State & Madison sts.,
Chicago, Ill.....1883

Samuels, Wm. R. G.....1822 Market st., San Francisco, Cal ..1883
Sargent, J. W.....Woodville, Jefferson Co., N. Y.....1882
Sax, Austin J.....Americus, Kansas..... 1883
Scott, Daniel W.....Girard, Crawford Co., Kansas.....1883
Scudder, John M.....228 Court st., Cincinnati, Ohio.. 1872
Sharp, James J.... .....Nunda, N. Y 1879
Sharp, R. W.....Buckland, Ohio ... .1879
SHOEMAKER, OLIVER H. P..Des Moines, Iowa..... 1872
Shultz, J. Beswick..... ....Logansport, Cass Co., Indiana.....1879
Simmons, Adam.....Girard, Illinois..... ...1883
Simmons, Noah.....Lawrence, Kansas.....1881
Simmons, Silas S.. .....Susquehanna, Penn..... 1879
Smiley, Martin L.....Catlettsburg, Boyd Co., Kentucky...1883
Smith, Dennis E.....131 Fort-Greene Place Brooklyn,N.Y. 1870

Smith, Mrs. Elizabeth G....Bridgeport, Conn.....1883
Smith, Isaac M.. .....Straughus, Indiana.....1883
Smith, Jonathan D. S.....117 State street, Bridgeport, Conn...1882
Smith, Nelson G.....Lewisville, Henry Co., Indiana.....1879
Spencer, E. E.....5 Pleasant street, Cambridge, Mass...1882
Spiegel, Christian.....Saratoga Springs, N. Y.....1882
Springsteen, Wallace S.....3 Garden street, Cleveland, Ohio....1879
Stearns, S. S.....Dryden, Lapeer Co., Mich.....1880
Stewart, John M.....New Lisbon, Columbiana Co., Ohio..1881
Stillman, Asa G.....Albia, Troy, N. Y.....1872
Stoddard, Charles S..... Redwood Falls, Minn.....1880
Stoller, Simon.....Hamilton, Missouri.....1881
Stout, John C.....Edwardsville, Madison, Co., Ill.....1881
STOW, BENJAMIN J.....213 Nassau street, Brooklyn, N. Y...1870
Stratford, Henry K.....243 State street, Chicago, Ill.....1870
Surber, David.....Perryville, Jefferson Co., Kansas....1881
Swarts, Eli.....Wyandotte, Kansas.....1883
Sweezy, William C.....Olivet, Osage Co., Kansas.....1883

Taft, Simon P.....28 Fulton street, Newark, N. J.....1877
Taylor, Anthony P.....Sunbury, Ohio.....1878
Terrill, Butler E.....Muir, Iona Co., Mich.....1878
Thompson, C. D.....Oil City, Penn.....1870
Tiffany, George L.....Torrington, Connecticut.....1882
Tobias, John M.....Hartsville, Indiana.....1883
Tuttle, William L.....417 East 122d st., New York City....1874

Vail, Albert H.....City of Kansas, Kansas.....1883
Van Cise, E. G.....Mount Pleasant, Iowa.....1872

Walker, Granville M.....Rosemond, Christian Co., Ill.....1881
Waller, W. D.....Montague, Massachusetts.....1882
Wares, Abel.....Haverhill, Mass.....1874
Wark, David.....9 East 12th street, New York City...1881
Welch, J. Milton.....La Cygne, Linn Co., Kansas.....1879
Welch, T. E.....Hartford, Kansas.....1883
West Henry D.....Southbridge, Mass.....1871
Westcott, A. B.....75 South Elizabeth st., Chicago, Ill..1870
Westerfield, James M.....Lewisville, Henry Co., Indiana.....1883
Wharton, E. V.....Yates Centre, Mich.....1883
Whitford, George L.....Coldwater, Mich.....1883
Whitford, Henry K.....511 State st., Chicago, Ill.....1879
Whitney, Albert B.....50 West 55th st., New York City....1882
Wilder, Alexander.....565 Orange st., Newark, N. J.....1870
Wilkins, J. W.....Ottawa, Franklin Co., Kansas.....1883

Willhoite, W. H.....Fontana, Miami Co., Kansas.....1883
Williams, Frederick H. ....Lock box 402, Bristol, Conn.....1882
Williams, G. W. H.....North Grosvenor Dale, Conn.....1882
Williams, Harvey de Ford..Ottawa, Kansas 1883
Williamson, Charles.....Washington, Washington Co., Kan..1881
Winans, R.....Benton Harbor, Mich..... .1870
Winterburn, George W....29 West 26th st., New York City....1879
Wohlgemuth, Henry.....Springfield, Ill.....1879
Woodward, A. B.....Tunkhannock, Wyoming Co., Penn..1874
Woodward, James H.....Seward, Nebraska.....1878
Wright, S. B.....Lane, Franklin Co., Kansas.....1883
Wright, T. Arthur... .....Lock box G, Americus, Lyon Co., Kan1881
Wunch, Charles..... .....Saranac, Michigan.....1880
Yeagley, Benjamin L.....Box 600, Johnstown, Penn.....1878
Yeomans, Charles G..... .Waterbury, Connecticut.....1882
York, Samuel.....Lewiston, Maine..... ..1878
Young, J. D .....251 Essex street, Lawrence, Mass....1874
Young, W. H. A.....Springfield, Massachusetts.. 1871
YOUNKIN EDWIN.....20th and Morgan sts., St. Louis, Mo..1878

DECEASED MEMBERS.

Names.	*Residence at Death*	*Year of Death.*
Allen, Paul W	New York, N. Y	1880
Bliss, E. E	Chicago, Ill	1878
Boskowitz, Herman	Brooklyn, N. Y	1882
Bundy, John H	Oakland, Cal	1881
Burton, Rollin J	Albany, N. Y	1873
Buxton, H. W	Worcester, Mass	1882
Covington, Henry	Pleasantville, Iowa	1875
Denman, J. B	Charlestown, Illinois	1878
Firth, Horatio E	Brooklyn, N. Y	1883
Fraser, Thomas R	Pictou, N. S	1882
Granger, Thomas A	New York, N. Y	1880
Gregory, Orson S	New York, N. Y	1882
Hausen, Christian W	Oakland, Cal	1882
INGALLS, WALTER M	Amelia, Ohio	1879
Jilson, Harvey D	Fitchburg, Mass	1878
JOHNSON, JOHN W	Hartford, Conn	1872

Johnston, John H	New York, N. Y	1874
Kenney, Moses B	Lawrence, Mass	1881
Kermott, John W	Detroit, Mich	1882
Marmon, John W	Mitchellville, Iowa	1876
Mason, John D	Boston, Mass	1880
Newton, E. O	Hot Springs, Ark	1877
Newton, Robert S	New York, N. Y	1881
Palmer, N	Brooklyn, N. Y	1876
Potter, A	Springfield, Ohio	1875
Potter, Stephen W	Hamilton, Ohio	1883
Prentiss, M. M	Rushville, Ill	1883
Shaw, Edward M	Allen, Mich	1882
Springsteen, Albert G	Cleveland, Ohio	1882
Stanton, Lyman	Copenhagen, N. Y	1870
Stowe, John	Lawrence, Mass	1875
Wood, Alfred A	Jefferson, N. Y	1875
Wood, Almon	Durhamville, N. Y	1882
Wright, W. R	Bath, Maine	1878
Yost, P. D	St. Louis, Missouri	1883

NATIONAL

Eclectic Medical Association.

The Fourteenth Annual meeting of the National Eclectic Medical Association of the United States of America will be held pursuant to adjournment, at the City of Cincinnati, Ohio, beginning on Wednesday, the eighteenth day of June, 1884, at TEN O'CLOCK in the morning, will continue in session for three days.

The place of meeting will be at Greenwood Hall, and the Association will have a sufficient number of smaller rooms for the convenience of the Sections and Committees.

The Committee of Arrangements and Reception consists of A. J. Howe, M. D., of Cincinnati; W. F. Gemmill, M. D., of Forest; H. M. Merrell, of Cincinnati; J. U. Lloyd, M. D., of Cincinnati; and L. E. Russell, M. D., of Springfield.

Communications to the Committee should be addressed to to Prof. A. Jackson Howe, M. D., Chairman of the Committee.

THE HEAD QUARTERS

of the Association will be at the Palace Hotel, directly opposite the place of meeting, and the expenses for board will probably not exceed $2.00 to $2.50 a day.

The leading Railroad Companies are promising reduced rates of fare and the Committee of Arrangements are using every proper effort to secure these advantages, but we suggest in connection with the work of the Committee that the officers of State and local Societies, as well as individual members, make such arrangements as they are able at their end of the

line of roads. This can often be accomplished when it is known to the railroad companies about how many will be likely to take passage. Nearer the time of meeting more definite arrangements will be made known through the public prints and facts upon this point should be made known to the Committee of Arrangements.

The Officers, Committees, and the Eclectics of the State of Ohio, are determined to make this occasion the most successful epoch in the history of this Association, and why should it not be? The time is propitious; the appeal comes from all parts of the Union for more thorough organisation, and the supporters of Reform in Medical Practice are rallying around the National Organisation with renewed zeal and determination. The object of this Association should inspire every one who has the interests of the medical profession in his heart, viz.: "to maintain organised coöperation between physicians, for the purpose of promoting the art and science of Medicine and Surgery, and the dissemination of beneficial knowledge, and an improved practice of medicine." Besides, we gather this year to a city the most accessible from all points of the country, centrally located, and the *alma mater* of our School of Practice. We expect to greet representatives from the Atlantic to the Pacific. The extreme North will be there and the Sunny South has promised to fall into line.

Every State Society is entitled to *fifteen* delegates; local Societies and Medical Colleges each to *two* delegates.

It is desirable that every State and local Society, so far as practicable, send as delegates *new members*, as the rights of permanent members are already fixed; the State and local Societies can thus add noticeably to the numerical strength of the National Association. Delegates should be appointed as soon as possible and their names with credentials may be forwarded at any time previous to the meeting to the Secretary, thus saving time and annoyance when the Association is in session. The names of those recommended to Permanent Membership should also be given.

The Secretary of this Association desires the Secretaries of

State and local Societies to communicate to him at an early day the names and address of their officers, number of members, times of meeting, etc.

There have been also numerous applications to the Secretary, by physicians not members of any medical society, for copies of the Constitution, in order to ascertain how they may attach themselves to the National Association. The attention of all such is directed to Article I. of the By-Laws. It will be incumbent upon them to become members of some State or local Society in affiliation with the National body. When there is none in the State, they may elect the alternatives, to unite with a Society in some other State, or to organize a Society at home. There is abundant time for either course. It is the desire and intention of the National Association to afford abundant facilities to all worthy physicians of like sentiment and sympathy to unite with it; only desiring to guard against the receiving of irresponsible, incompetent and unworthy individuals.

It is desired that all credentials shall define the standing of the delegates and candidates for Permanent Membership, and especially their eligibility as defined by the By-Laws. "This Association may receive as Permanent Members such persons, graduates of regularly-organised medical colleges, holding legitimate diplomas, and physicians who have been engaged in reputable practice fifteen years, as are duly recommended by the local or State Eclectic Medical Society *to which they belong*, provided they are or have served as delegates to this Association." Due attention to this requirement will be an effectual protection against any unfortunate action in regard to adding to the membership.

THE WORK OF SECTIONS

To facilitate and systematise the business of the Association, it is desirable that all essays shall be submitted to their respective Sections before they come before the Association or printed in the *Transactions*. This feature was introduced several years ago, and has since grown into favor. Each Section is constituted with a Chairman and Secretary whose duty

it is to examine all papers submitted to their allotment, and when opportunity is afforded by the Association, to have a meeting of the Section, read such articles as are deemed worthy and important, and report them with their proceedings to the Association. Every essay when submitted becomes the property of the Association and is finally delivered to the Permanent Secretary for publication in the *Transactions*. All members appointed to prepare papers will see to it that their productions are delivered to the Secretary or placed in possession of the proper Sections. It is also suggested that authors of essays notify the officers of their Section of the purpose to comply with their appointment; and if any change is made by them in the subject assigned them, to notify the officers of the Section prior to the meeting; thus facilitating matters and also giving the officers a basis for their expectations.

Rooms and facilities for the different Sections will be provided by the local Committee. They will be expected to arganize, arrange papers and discuss such matters as are unnecessary to be brought before the General Association. The Chairman of each Section will report all progress in his department and the Secretary will preserve a record and memoranda.

OFFICERS OF SECTIONS.

Below is a list of the Sections and officers. Each officer has declared his hearty willingness to work for the interest of his Section. The address of each is given:

A. *Hygiene, State Medicine, and Medical Jurisprudence.*—Chairman, MILBREY GREEN, M. D., No. 1 Columbus Square, Boston, Mass.; Secretary, B. L. YEAGLEY, M. D., Box 600, Johnstown, Pennsylvania.

B. *Practice of Medicine and Clinical Medicine.*—Chairman, R. W. GEDDES, M. D., Winchendon, Mass.; Secretary, WM. T. GEMMILL, M. D., Forest, Ohio.

C. *Materia Medica and Therapeutics.*—Chairman, R. E. KUNZE, M. D., 606 Third avenue, New-York City; Secretary, H. B. PIPER, M. D., Tyrone, Penn.

D. *Obstetrics and Gynecology.*—Chairman, H. K. STRATFORD, M. D., 243 State street, Chicago, Ill.; Secretary, ALBERT MERRELL, M. D., 2346 Chestnut street, St. Louis, Mo.

E. *Surgery and Surgical Clinics.*—Chairman, MILTON JAY, M. D., 513 State street, Chicago, Illinois; Secretary, L. E. RUSSELL, M. D., Springfield, Ohio.

F. *Ophthalmology, Otology and Laryngology.*—Chairman, HENRY OLIN, M. D., 126 State street, Chicago, Ill.; Secretary, F. H. FISK, M. D., Olney, Ill.

G. *Electricity and Diseases of the Nervous System.*—Chairman, GEO. C. PITZER, M. D., 1110 Chambers street, St. Louis, Mo.; Secretary, J. A. JEANÇON, M. D., Newport, Ky.

H. *Dermatology and Microscopy.*—Chairman, S. B. MUNN, M. D., Waterbury, Conn.; Secretary, G. H. MERKEL, M. D., 86 Boylston street, Boston, Mass.

"The Chairman shall convene each Section at the earliest possible opportunity," that he may be ready to report when called upon by the General meeting. An abstract of the prominent features of papers not read to the Association may be presented for discussion and instruction.

Three days are really too brief for the routine business of the meeting. The first forenoon will be consumed in introductory addresses, the creation and action of Committee on Credentials, etc.; and the last afternoon in congratulations, resolutions of courtesy, and installation of officers. Hence there are but two full days for the reports of Sections and other routine business. A limited time will be afforded, we trust, for every department, but the Association cannot afford to consume time in waiting. Beginning in the afternoon of the first day with Section-work each will be called in the order named in the announcement. The question of holding Night-Sessions will be at the discretion of the members of the Association.

ESSAYS AND COMMUNICATIONS.

In pursuance of Article VI. of the Constitution, all members of this Association are solicited to report all interesting cases, improvements, discourses and suggestions which shall be considered useful. It is the duty of the President to designate members to prepare papers and reports to be submitted to the Association. It will be understood that the persons designated will not be held rigorously to the topic named

when he sees good reason to change or choose another. Nor are members excluded or even excused because of not having been herein designated.

We have classified the subjects into their respective sections, as a matter of ready reference, and that each writer may see at a glance just where his part is required. Should a change of subject be deemed expedient the author is respectfully requested to give notice to the officers of the Section from whom he passes to where he properly belongs.

The following subjects are assigned to the persons named, subject to the conditions above mentioned:

APPOINTMENTS TO SECTION A.

Poisons from a Medico-Legal Standpoint.....A. Merrell
State Medicine and State Boards of Health.....A. L. Clark
Hygienic and Climatic Treatment of Phthisis Pulmonalis....C. Band
The Ventilation and Heating of Schoolrooms.....H. S. McMaster
The Nurse's Duty.....L. T. Beam
Physicians as Medical and Surgical Experts.....B. L. Yeagley
The Effects of House-Plants on the Health.....Rebecca V. Anton
Homes of the Poor in our Cities and Populous Towns .E. E. Spencer
Air and Water as Vehicles of Infection.....J. M. Mulholland
Mental Hygiene: Work and Overwork.....Alex. Wilder
Hygiene.....M. Green
Sanitation among the Mennonites.....C. A. Flippen

APPOINTMENTS TO SECTION B.

Hereditary Transmission of Disease.....J. R. Borland
Pleasant Medication.....W. T. Gemmill
Albuminuria.....J. T. McClanahan
Diphtheria.....R. L. Galbreath
Rectal Alimentation.....S. W. Ingraham
Diseases of the Heart.....Morton Robinson
Women as Practioners.....Anna B. Campbell
Anæmia.....R. W. Geddes
Angina Pectoris.....C. E. Miles

APPOINTMENTS TO SECTION C.

Dynamic Action of Drugs.....R. E. Kunze
Incompatibilities of Drugs.....J. U. Lloyd
Special Affinities in Medicines.....J. M. Scudder

Ancient and Modern Therapeutics.....J. B. Duff
Anæsthetics.....S. B. Fisher
Rest as a Therapeutic Agent.....A. J. Marston
Lobelia Inflata.....William Jones
Veratrum Viride.....A. B. Whitney

APPOINTMENTS TO SECTION D.

Production of the Sexes at Will.....John King
The Effects of Retained Placenta.....Wm. M. Durham
Versions and Flexions of the Uterus.....C. E. Griswold
The Menstrual Function and its Derangements.....S. S. Carr
Uterine Fibroids.....H. K. Stratford
Uterine Cancer.....H. Wohlgemuth
Vaginitis.....W. H. Hawley, Sr.
Uterine Hæmorrhage.....J. C. Butcher

APPOINTMENTS TO SECTION E.

Practical Points in Abdominal Surgery.....Milton Jay
Surgery of the Hands and Feet.....A. J. Howe
Traumatic Tetanus.....G. D. Coe
Surgical Emergencies.....R. A. Gunn
Mechanical Surgery.....L. E. Russell
Abscess of the Liver.....J. W. Puittr

APPOINTMENTS TO SECTION F.

Explorations of the Larynx.....W. C. Beam
Ophthalmological Observations.....H. Olin
The Use of the Ophthalmoscope.....T. H. Fisk
Diseases of the External Ear.....W. H. Hawley, Jr.
Diseases of the Middle Ear.....Ezra Peters
Diseases of the Labyrinth.....J. Perrins

APPOINTMENTS TO SECTION G.

Brain-Work and Brain-Food.....Geo. Covert
The Certainties and Uncertainties of Electro-Therapeutics, G. C. Pitzer
Diseases of the Sensory Nerves.....Thos. Cleland
Localization of the Functions of the Cortex of the Cerebrum.....J. A. Jeançon
Diseases of the Sympathetic Nervous System.....D. A. Cashman
The Relation of Intoxicants and Narcotics to Intellectual Life.....C. A. F. Lindorme
Traumatic Insanity.....G. E. Potter
Tathology and Therapeutics of Inebriety.....H. S. McMaster
The Mind in Disease.....S. D. F. Gurney

APPOINTMENTS TO SECTION H.

Differential Diagnostic Symptoms in Exanthemata...J. A. McKlveen
Infantile Cutaneous Diseases.....Mary C. Nivison
Eczemas, and How to Treat them.....V. A. Baker
Micro-parasitic Pathology.....G. H. Merkel
Mentagra and Favus.....H. K. Whitford
Exanthemata: their Effects on the Mucous Membrane....N. G. Smith

UNCLASSIFIED SUBJECTS.

Improvements in Our Medical Journals.....D. P. Borden
Manners and Morals in the Profession.....T. Hodge Jones
Essentials and Non-essentials in Medical Codes.....F. J. Lock
The Relation of Physicians to Proprietory Medicines.....R. A. Reid
Our Young Men.....Louise Day
How to make our Profession Successful.....G. R. Fortiner
Editors or Educators.....S. P. Taft
Climatology of the Rocky Mountains.....J. W. Miles

The above subjects cover a very wide range of thought and we predict from the expressed willingness of many of the writers that our meeting, as well as the published *Transactions*, will be of inestimable value. Let none wait for further solicitation, and others whose names are not mentioned we would earnestly entreat to contribute whatever they have that would be of value to the profession. We only ask that papers do not exceed twenty printed octavo pages, and that they so far as possible be deposited with the Secretaries of Sections within thirty days of the meeting.

STATUS OF ECLECTIC MEDICINE.

The following persons are appointed to attend the meetings of the Eclectric Medical Societies of their States and to report at the National Meeting the prosperity, membership and condition of such Societies and such facts in regard to the welfare and prosperity of Reformed Medicine. The name of each State will be called by the Secretary at the Annual Meeting, whereupon the representative will arise and report. A summary of his statement should be in writing. Those States having no Society, it is hôped will immediately take some action and have some one at our meeting to represent their interests. The time is at hand when organisation is demanded and when affiliation with the National Association will be an essential of legal as well as professional recognition.

Arkansas—J. W. Pruitt.
Alabama—J. W. R. Williams.
California—A. W. Bixby.
Colorado—T. W. Miles.
Connecticut—Geo. L. Tiffany.
Delaware—Wm. Underwood.
Florida—C. A. F. Lindorme.
Georgia—W. M. Durham.
Illinois—D. A. Cashman.
Indiana—S. S. Boots.
Iowa—J. W. Reynolds.
Kansas—T. A. Wright.
Kentucky—M. L. Smiley.
Maine—N. R. Martin.
Maryland—B. S. Titcomb.
Massachusetts—Pitts G. Howes.
Minnesota—C. S. Stoddard.
Michigan—E. Blackman.
Mississippi—C. D. N. Kirk.
Missouri—T. H. Jones.
Nebraska—W. S. Latta.
New Hampshire—H. A. Hildreth.
New Jersey—D. P. Borden.
New York—W. H. Hawley, Jun.
Ohio—J. C. Butcher.
Oregon—J. M. F. Browne.
Pennsylvania—A. B. Woodward.
Rhode Island—J. A. Goodale.
Tennessee—W. H. Halbert.
Texas—M. W. Henry.
Vermont—P. L. Templeton.
Wisconsin—S. S. Judd.

COMMITTEE ON LOCATIONS FOR PHYSICIANS.

In pursuance of a standing resolution, directing the appointment of a committee to obtain and give desired information for physicians contemplating a change of location, the following members are designated:

J. M. Scudder, M. D., 228 Court street, Cincinnati, Ohio.

R. A. Gunn, M. D., 45 East Twenty-second street, New York, N. Y.
S. B. Munn, Waterbury, Conn.
J. E. Yowell, Nashville, Tenn.
W. M. Durham, Atlanta, Georgia.
J. L. Hatch, Owatonna, Minnesota.
R. A. Cessna, Rocky Springs, Miss.
J. M. Welch, M. D., Topeka, Kansas.
L. T. Beam, Box 574, Johnstown, Penn.
W. R. G. Samuels, M. D., 1822 Market street, San Francisco, Cal.
J. W. Mills, M. D., Denver, Colorado.

PROPOSED AMENDMENT TO THE CONSTITUTION.

Notice has been duly given of the following amendment to the Constitution and By-Laws of the Association, for consideration at the next annual meeting, namely:

To amend By-Laws, Article II., Section 1, in regard to annual dues, now three dollars, so as to read as follows: "and shall, likewise, after the first year, pay an annual due of *five* dollars."

HONORARY MEMBERS.

The following amendment was adopted at the last Annual Meeting, in regard to Honorary Members; and is now a law of the Association:

"Persons of high medical and scientific attainments from other countries may, upon the nomination of a member, and upon the recommendation of the Executive Committee, be elected Honorary Members at the Annual Meeting next after such nomination."

COLLEGES.

At the Annual Meeting in 1883, the standing resolution in relation to controversies of Medical Colleges was rescinded and the following adopted:

"That a Committee of five members be appointed by the chair to consider such matters and report upon the same, and that the Committee be continued from year to year till their vacancies through absence shall require filling on the part of the President of the Association."

Doctors L. E. Russell, E. Younkin, J. M. Mulholand, J. T. McClanahan, and S. B. Fisher, constitute the said Committee.

IOWA MEDICAL COLLEGE.

The following resolution was adopted at the last Annual Meeting, and the subject to which it refers will be the subject of action accordingly:

"WHEREAS, This Association recognizes the fact that the Medical Department of Drake University, of Des Moines, Iowa, known as "Iowa Medical College," is so connected with a reputable University as to give this College a standing not usually enjoyed by new institutions; be it

"*Resolved*, That this Association is willing to accept said Iowa Medical College on probation for one year, as has been the usage in such cases; and if a favorable record has been produced at the National Convention in 1884, this College shall be recognized as in good standing with other Colleges of the Eclectic School of Practice."

ORDER OF BUSINESS.

The President submits the following programme; subject, however, to the voice of the Association.

FIRST DAY—MORNING SESSION.

The Association will meet at the appointed place, Greenwood Hall, at ten o'clock, and remain in session two hours. The roll of officers will be called by the Secretary. Prayer will be offered by a clergyman, invited to attend by the Local Committee, for that purpose. An address of welcome will be delivered by JOHN KING, M. D., the Veteran of Medical Freedom and Eclectic Medicine.

After the response the President will announce the Committee on Credentials.

The roll of States will be called; and all credentials of delegates and nominations for membership of the Association, which are duly presented, will be referred by the President to that Committee. It is desired that the certificates shall, in each case, give the full name of each individual, and his post-office address and other essential particulars.

The reports of the Secretary and Treasurer will also be read.

AFTERNOON SESSION.

The chief business will be the reception of reports from the Committee on Credentials, and reports upon the Status of Eclectic Medi-

cine from the several States. These should be in writing. The Sections will then be called in their order, unless the Association otherwise direct. The chairman and secretary will proceed with their business; all papers, or synopses of papers, which are read will be open for discussion, at the time. Each speaker is limited by standing resolution, AT ALL TIMES, to five minutes.

EVENING.

The holding of an evening session will be at the discussion of the Association. If held, the order will be section-work. A reception will probably be given.

SECOND DAY—MORNING SESSION.

The hour of assembling will be ten o'clock, unless an earlier hour be ordered. The journal of the preceding day will be read. Reports of officers and committees will be in order. The meeting of Sections will be the regular business of the day.

AFTERNOON SESSION.

New business and reports of committees will be first in order; also unfinished business. Sections will also be held.

EVENING.

It is proposed by our hosts of Ohio, and Cincinnati, to treat the Association to an excursion to the Zoological Gardens.

THIRD DAY—MORNING SESSION.

The Association will convene at ten o'clock, except an earlier hour is ordered. The journal of the preceding day will be read. The unfinished work of the Sections will be next in order; also, other unfinished business, and the appointment of the Electoral Committee.

AFTERNOON.

The report of the Electoral Committee will be first in order; together with the selection of the place of meeting in 1885. The officers elect will be installed, and the usual complimentary resolutions

and other business incident to the closing of business, introduced. The Secretary will read the report of the day's session. At the close of the proceedings the President will adjourn the meeting.

Fellows of the National Eclectic Medical Association: The work of the session is now outlined for your consideration. You will do honor to yourselves, you will further the prosperity of our organization and School of Practice, you will discharge that obligation which every genuine and conscientious physician regards himself as owing to his profession, if you endeavor faithfully to perform the part that falls or may have been allotted to you. Standing as the Eclectics do, in the ranks of the advanced guard in Medicine, we cannot afford to be indifferent or negligent in good work.

We also repeat the request to all who are desirous to promote the cause and to extend the scope of Eclectic Practice, to communicate such facts of interest in regard to its condition and prospects, and to scientific and professional matters, as are in your possession. An earnest spirit of investigation, with breadth and clearness of view, cannot fail to assure additions to our knowledge which will benefit ourselves and the general community.

The arrangement of Sections will render the early preparing of papers imperative. As the By-Laws prescribe, however, that all papers read or submitted to the Association *shall be deposited with the Secretary within* THIRTY DAYS, this care and forethought will be no hardship.

We expect a full attendance of those who have the best interests of our profession at heart. The programme is sufficiently diversified to afford to every one something of special interest; besides, it does not confine any one who may have some matter of importance to offer. We are aiming at coöperation, the working together of the best men in our ranks to advance the cause, to exalt the ethical and professional standard, and to combine our energies and efforts for the benefit of all. Nor is it one of the incentives to be overlooked or despised, that the opportunity is given to freshen agreeable acquaintance, brighten the links of fraternal association, and extricate ourselves for a season, with great personal, moral and social advantage, from a monotonous routine-life; which, however necessary, is very certain, if not occasionally interrupted, to deteriorate the health, cheerfulness, and even the character.

We convene at Cincinnati where the National Association was first organised, where our first College was established, where the name ECLECTIC was first adopted as our designation. Our traditions, our

memorials, our history, all refer us thither. To go to Cincinnati on this occasion will be like paying a visit to the family homestead, at an annual Thanksgiving. We are certain to meet the "old folks at home." They are waiting, ready to give us a treat, which shall long be remembered. Let the opportunity not be lost. Repair thither, then, and show them how numerous and how thrifty the family is growing up, not only of children, but even of grandchildren; all of good blood and entitled to more than a step-mother's consideration. Come from the northeast, from the region of the Atlantic and the Gulf, the Rio Grande, the Great Lakes and the Pacific. We shall be prouder than ever that we are Eclectics, when we take each other by the hand and learn of each other's ways and welfare.

E. YOUNKIN, M. D.
ST. LOUIS, MO.

JANUARY 1, 1884.

By the President,
ALEXANDER WILDER, *Secretary.*

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